

From wb0eq at yahoo.com Thu Jun 2 12:56:39 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Thu, 2 Jun 2011 09:56:39 -0700 (PDT)  
Subject: [BoatAnchors] HP 410B VTVM vs. Deoxit (ported over from HP\_Agilent meeting)  
Message-ID: <305246.74730.qm@web45613.mail.sp1.yahoo.com>

I've been talking about restoration of my HP 401B VTVM on the HP & Agilent Yahoo group list. I mentioned using Caig Deoxit spray on the 410. I received objections to that! This is my response on that list:

=====

I've read some objections on this [HP & Agilent] list to using Deoxit D5 & ProGold on the high impedance circuitry of an HP 401B VTVM. Contact cleaner spray was alleged to compromise the insulation systems of the this unit; it has a rated input Z of 122 megohms.

I've measured the insulation resistance of Caig Deoxit ProGold spray product as follows.

A 0.5" x 0.5" square area on an extremely high resistance surface of thin plexiglas was sprayed with the Deoxit; the terminals on the plastic to the megger were sprayed as well to include them in the "circuit".

I used the insulation resistance function of a Sprague T0-6A. Its maximum range is about 100,000 megOhms.

I can't readily measure the voltage applied to the specimen for this test 'cause I'm dealing with 100,000 megs here! Looking at the circuitry for ins. resistance measurement shows the applied voltage might be around 250 VDC. I'll have to figure out another way of measuring this voltage. The Z is so high, it's kind of in the realm of "static" electricity!

I verified the calibration of the T0-6A using a string of extremely high value "stick" resistors (the kind found in the front end attenuators of high Z VTVMs), each 50 to 100 megohms.

Both wet and dry (evaporated) spray readings were identical; they were at the measurement limits of the device. Ditto for the unsprayed plastic.

I've been using Caig Deoxit products since about 1988. They've worked "magic" on a lot of equipment that I considered hopeless junk due to previously-unfixable contact (e.g. switches of all sorts, connectors, relay contacts) problems.

That's why I had no hesitation about using it on the 410B VTVM.

I'm going to give Caig a call to find out their take on insulation resistance of their product, too.

=====

--John Sehring VE6/WB0EQ Okotoks, Alberta Canada

From k4oah at mindspring.com Thu Jun 2 16:49:56 2011  
From: k4oah at mindspring.com (Garey Barrell)  
Date: Thu, 02 Jun 2011 16:49:56 -0400  
Subject: [BoatAnchors] HP 410B VTVM vs. Deoxit (ported over from  
HP\_Agilent meeting)  
In-Reply-To: <305246.74730.qm@web45613.mail.sp1.yahoo.com>  
References: <305246.74730.qm@web45613.mail.sp1.yahoo.com>  
Message-ID: <4DE7F774.9060904@mindspring.com>

John -

Interesting data.

One consideration is that spraying DeoxIT makes it impossible to keep it ONLY on the contacts. Overspray remaining on switch wafers, insulators, etc., may not be conductive itself, BUT it and the 'lubrication' left behind when the carrier evaporates becomes a 'magnet' for dust particles, etc., which CAN carbonize and CAN form leakage paths between contacts.

This is why I use the liquid (DeoxIT D100L) and apply it directly, and only, to the contacts themselves. The needle applicator enables reaching just about any contact. The only DeoxIT spray that I use is FaderLube, which is pretty well contained by the pot. I don't try to 'wash out' the pot, just a quick burst will clean up and smooth out just about any carbon pot that is salvageable, which is about 95% or better.

73, Garey - K40AH  
Glen Allen, VA

Drake 2-B, 2-C/2-NT, 4-A, 4-B, C-Line  
and TR-4/C Service Supplement CDs  
<www.k4oah.com>

John Sehring wrote:

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>  
>

From gumbear at pacbell.net Thu Jun 2 17:00:26 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Thu, 2 Jun 2011 14:00:26 -0700  
Subject: [BoatAnchors] HP 410B VTVM vs. Deoxit (ported over from HP\_Agilentmeeting)  
References: <305246.74730.qm@web45613.mail.sp1.yahoo.com>  
Message-ID: <001c01cc2168\$1c22f470\$399e480c@KB6NAX>

John, you are right on. The nonsense you recieved on the forum is just that, nonsense. It's another example of ignorami parroting the "truth" as they know it. This is why we need better education in math and science for everyone before they graduate from high school. We just can't run a modern society on BS (soap boxing over).

If anyone had problems they tried to solve by spraying deoxit on something they just didn't understand what they were doing or what was going on that they think was low insulation resistance. Even the cheaper formulations that use flammable solvents do not contain significantly polarizing solvents like acetone which until evaoprated will have increased conductance over the remaining lubricants which can be either synthetic or refined mineral oil which has very high resistivity. Insulations that are contaminated with salts from dirt will not be cleaned sufficiently by using contact cleaners. A water based cleaning solution that is good at removing soils and rinses well is needed but that approach has its risks also.

Just like you must understand the total circuit you are creating when connecting test equipment to make measurements you must also understand the "soup" you are creating when mixing chemicals, solvents and cleaning ajents with dust and grime.

There is NO, and I repeat, NO one cleaning solution that addresses all contamination issues.

Arden

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That's why I had no hesitation about using it on the 410B VTVM. ....

From gumbear at pacbell.net Thu Jun 2 17:25:35 2011

From: gumbear at pacbell.net (Arden Allen)

Date: Thu, 2 Jun 2011 14:25:35 -0700

Subject: [BoatAnchors] HP 410B VTVM vs. Deoxit (ported over from HP\_Agilent meeting)

References: <305246.74730.qm@web45613.mail.sp1.yahoo.com>

<4DE7F774.9060904@mindspring.com>

Message-ID: <002601cc216b\$9fc31000\$399e480c@KB6NAX>

Garey, while your selection of treatments and methods of application avoid some problems your suspicions are not well founded. The 5% solution Deoxit is 95% carrier, a high wetting agent that carries the lubricant over

surfaces and into cracks and crannies. The carrier's purpose is to distribute the lubricant. The carrier soon evaporates after application leaving just the lubricant on contact surfaces as well as impregnated into dirt and dust with the result of improved surface resistivity. The other benefit of the carrier is its flushing action to remove abrasive dirt particles which, while less damaging in the presence of the lubricant, is not removed by needle point application of a lubricant to contacts alone. A judgement call is required in dealing with heavy accumulations of dirt. Solvents and lubricants migrate. Absorbent insulators like phenolic and unglazed ceramic will "pull" the lubricant off of contacts over time. Therefore it is actually beneficial to soak insulations with lubricant so that contacts are then "fed" from the insulator. Although I have no specific knowledge of products I imagine that formulations that have some degree of thixotropy migrate less and protect longer. Perhaps Caig ProGold can make claim to that but their literature is aimed at the ignorami types, unfortunately.

Arden

> John -

Interesting data.

One consideration is that spraying DeoxIT makes it impossible to keep it ONLY on the contacts. Overspray remaining on switch wafers, insulators, etc., may not be conductive itself, BUT it and the 'lubrication' left behind when the carrier evaporates becomes a 'magnet' for dust particles, etc., which CAN carbonize and CAN form leakage paths between contacts.

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.....

From artleb at earthlink.net Sat Jun 4 23:24:50 2011  
From: artleb at earthlink.net (Art Lebermann)  
Date: Sat, 4 Jun 2011 20:24:50 -0700  
Subject: [BoatAnchors] Info on REL receiver?  
Message-ID: <380-2201160532450265@earthlink.net>

I recently purchased a Radio Engineering Labs (REL) receiver, Model 278. I understand that it dates to around 1932, and was a competitor to the National SW-3. That's about all I know. Does anyone have more info on this receiver?

Thanks!  
Art Lebermann  
W6REQ

artleb at earthlink.net

From WA1KBQ at aol.com Sun Jun 5 10:44:46 2011  
From: WA1KBQ at aol.com (WA1KBQ at aol.com)  
Date: Sun, 5 Jun 2011 10:44:46 -0400 (EDT)  
Subject: [BoatAnchors] Info on REL receiver?  
Message-ID: <5fb2d.3d979e05.3b1cf05e@aol.com>

Hi Art,

I also have an REL278, (mine is pictured at LA5KI website) currently packed away in a box after a recent move to a new QTH. REL was founded by Charles M Srebroff, a graduate of Columbia University and located in Long Island City, New York. REL also catered to the bootlegger trade with a line of equipment that infringed RCA patents and later became a manufacturer of amateur communications receivers and transmitters. The REL278 was one of their later three tube plug-in coil type regenerative receivers and while it was advertised as competition for the National SW-3 the REL's untuned RF stage (antenna coupling tube) probably limited its ability to be a serious threat. The REL256 was an earlier version with earlier tubes and black wrinkle and a different tuning dial is much more difficult to find. One appeared on eBay several years ago which I attempted to get at with a \$400 bid but apparently I underestimated its value; it got away and I have not seen another since. We're still licking our wounds here over that one! The REL-215 transmitter- modulator in a black wrinkle tabletop cabinet would be another great find. I know of only one out there currently. REL also made big rack style amateur transmitters. REL equipment featured very high quality mechanical construction that without question rivaled the best of the day. Of significant interest is REL's epic battle with RCA over patent infringement. The excerpt below is copied from the Internet:

Regards,

Greg; WA1KBQ

REL manufactured many custom products for amateur as well as commercial purposes. Customers included the bootleggers of the time, providing quite a large income to the business in the late 1920s and early 1930s.

In time, Henry Dietz came to be the plant manager, and led the way to expanding the company. Frank Gunther was the salesman. A major force in REL came to be Major Edwin Armstrong. Armstrong was the driving force for many projects including FM transmitters and the first two-way radios for police cars. These radios - installed in the Bayonne, NJ police cars - raised the ire of RCA, which then instigated a patent lawsuit by Lee De Forest. The animosity between Armstrong and RCA led to his backing REL in the legal actions. Additional legal aid came from C.R. Runyon, Armstrong's neighbor.

(Ironically, the radios were first designed for a client in South America ... rum runners ... who lost their equipment to the Coast Guard.)

REL projects included a number of military radios, as well as the LORAN (Long RANGE navigation system), just recently replaced by GPS, and equipment installed in Amelia Earhart's plane. With Armstrong's FM transmitters came FAX capabilities.

In 1947, seeing the potential for post-WWII FM transmitter sales, C.R. Runyon exercised an option granted by Armstrong during the patent fight against RCA, and promptly dismissed Srebroff. Dietz left in sympathy, and founded the \_Henry G. Dietz Co.,\_ (<http://www.lowpressure.com/>) specializing in low pressure/vacuum technology. Frank Gunther (who joined Radio Engineering Laboratories in 1925) became president in 1960.

REL ran for a while, but eventually withered, ceasing operations in 1972, after being sold to American Dynamics.

In a message dated 6/4/2011 11:25:20 P.M. Eastern Daylight Time, artleb at earthlink.net writes:

I recently purchased a Radio Engineering Labs (REL) receiver, Model 278. I understand that it dates to around 1932, and was a competitor to the National SW-3. That's about all I know. Does anyone have more info on this receiver?

Thanks!  
Art Lebermann  
W6REQ

artleb at earthlink.net

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BoatAnchors mailing list  
BoatAnchors at theporch.com  
<https://minime.theporch.com/mailman/listinfo/boatanchors>

From scb at hiwaay.net Sun Jun 5 13:36:08 2011  
From: scb at hiwaay.net (scb at hiwaay.net)  
Date: Sun, 05 Jun 2011 12:36:08 -0500  
Subject: [BoatAnchors] The 'other' REL, Robt E. Lacault  
Message-ID: <20110605123608.155177n4a8dree88@webmail.hiwaay.net>

Greetings Group;  
There were apparently two radio-associated REL companies.  
Robert E. Lacault also ran into problems with RCA over his "Ultradyn" down-conversion reception system. Supposed to have worked with Armstrong in France. Websearch his name, lots of info on the web. Also revisit this article for some background tho' oddly Lacault's name isn't mentioned, I may have queried Alan about that in the past; <http://antiqueradios.com/superhet/>  
Best Rgds; Steve

From gumbear at pacbell.net Sun Jun 5 14:26:57 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Sun, 5 Jun 2011 11:26:57 -0700  
Subject: [BoatAnchors] Tektronix high voltage transformer rewinding  
Message-ID: <001c01cc23ae\$2a937410\$939d480c@KB6NAX>

O'scopers,

Bill Schell, AA4AY, for years rewound high voltage transformers for Tektronix oscilloscopes making the saving of many fine instruments possible. I got him on the phone this morning and learned he sold is winding equipment to a David Garrido six months ago. Bill hasn't heard if David has taken up the rewinding business. So the question is does anyone know who/where to get HV transformers rewound?

Arden Allen  
KB6NAX

Adopt a shelter dog,  
save an innocent life,



and make a friend forever =:-)

From charlesmorris800 at centurytel.net Sun Jun 5 13:37:42 2011  
From: charlesmorris800 at centurytel.net (Charles)  
Date: Sun, 05 Jun 2011 12:37:42 -0500  
Subject: [BoatAnchors] Where'd all the 400 Hz surplus equipment go?  
Message-ID: <0jfnu6p1hkb2a0fkvv2d6sh4d3tgqh9fno@4ax.com>

Having finally fixed my 1 KVA 400Hz inverter (as previously posted), I went looking for something to power with it... and discovered that there doesn't seem to be any more mil-surplus equipment that \*needs\* 400 Hz power! Where did it all go? Scrapped for parts and the power transformers junked?

-Charles

From w2dgb at ptd.net Sun Jun 5 15:05:48 2011  
From: w2dgb at ptd.net (Bill Fizette)  
Date: Sun, 5 Jun 2011 15:05:48 -0400  
Subject: [BoatAnchors] Info on REL receiver?  
In-Reply-To: <380-2201160532450265@earthlink.net>  
References: <380-2201160532450265@earthlink.net>  
Message-ID: <14A2503BEEE44E60AA7A41B05C582042@BillPC>

Art,

The REL was written up in the AWA Journal in the July 2006 issue.

Congratulations on getting one!

73, Bill w2dgb

----- Original Message -----

From: "Art Lebermann" <artleb at earthlink.net>  
To: <boatanchors at theporch.com>  
Sent: Saturday, June 04, 2011 11:24 PM  
Subject: [BoatAnchors] Info on REL receiver?

>  
> I recently purchased a Radio Engineering Labs (REL) receiver, Model 278.  
> I  
> understand that it dates to around 1932, and was a competitor to the

> National SW-3. That's about all I know. Does anyone have more info on  
> this receiver?  
>  
> Thanks!  
> Art Lebermann  
> W6REQ  
>  
> artleb at earthlink.net  
>  
>  
>  
>  
>  
>  
> -----  
> BoatAnchors mailing list  
> BoatAnchors at theporch.com  
> <https://minime.theporch.com/mailman/listinfo/boatanchors>  
>

From arc5 at ix.netcom.com Sun Jun 5 15:21:50 2011  
From: arc5 at ix.netcom.com (David Stinson)  
Date: Sun, 5 Jun 2011 14:21:50 -0500  
Subject: [BoatAnchors] Where'd all the 400 Hz surplus equipment go?  
In-Reply-To: <0jfnu6p1hkb2a0fkvv2d6sh4d3tgqh9fno@4ax.com>  
References: <0jfnu6p1hkb2a0fkvv2d6sh4d3tgqh9fno@4ax.com>  
Message-ID: <E15EBACCB14146FC8F2A660FA3C9FC89@DaddyPC>

----- Original Message -----

From: "Charles" <charlesmorris800 at centurytel.net>

>...and  
> discovered that there doesn't seem to be any more mil-surplus  
> equipment that \*needs\* 400 Hz power! Where did it all go? ...

After the ham who bought it died, it went to the local  
scrap yard. It was marked: "#10 Export" and shipped  
to Cambodia and Vietnam, where it was stripped to it's  
resistors for parts resale and the chassis heated (usually in  
the family's cooking pots) to recover a few ounces  
of lead and subtract a few points of I.Q.

From gumbear at pacbell.net Sun Jun 5 16:18:27 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Sun, 5 Jun 2011 13:18:27 -0700  
Subject: [BoatAnchors] That power supply info you wanted to know  
Message-ID: <001801cc23bd\$e410f750\$939d480c@KB6NAX>

There have been many questions over time about power supplies and how they work. Here's a document from Agilent that informs:

[http://www.home.agilent.com/upload/cmc\\_upload/All/exp17j.pdf?&cc=US&lc=eng](http://www.home.agilent.com/upload/cmc_upload/All/exp17j.pdf?&cc=US&lc=eng)

Arden Allen  
KB6NAX

Properly trained a man can be  
dog's best friend. -Corey Ford

From vilgotch at bigpond.net.au Sun Jun 5 17:16:18 2011  
From: vilgotch at bigpond.net.au (vilgotch at bigpond.net.au)  
Date: Mon, 6 Jun 2011 07:16:18 +1000  
Subject: [BoatAnchors] Tektronix high voltage transformer rewinding  
In-Reply-To: <001c01cc23ae\$2a937410\$939d480c@KB6NAX>  
Message-ID: <20110605211618.QEXVU.12589.root@nskntwebs03p>

There's a fellow called Chuck Harris who hangs out at the Tekscopes Yahoo group and a few other groups too, who does them.

73,

Morris

---- Arden Allen <gumbear at pacbell.net> wrote:  
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>  
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> -----  
> BoatAnchors mailing list  
> BoatAnchors at theporch.com  
> <https://minime.theporch.com/mailman/listinfo/boatanchors>

From gumbear at pacbell.net Sun Jun 5 23:16:22 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Sun, 5 Jun 2011 20:16:22 -0700  
Subject: [BoatAnchors] Tektronix high voltage transformer rewinding  
References: <20110605211618.QEXVU.12589.root@nskntwebs03p>  
Message-ID: <001101cc23f8\$22b858b0\$309f480c@KB6NAX>

> There's a fellow called Chuck Harris who hangs out at the Tekscopes Yahoo group and a few other groups too, who does them.

Great tip, Morris. I found this on the antique radios forum:

"Fact. Chuck Harris is making them, and David Garrido is preparing to. Both are on the "TekScopes" Yahoo group. I bought a Harris rewind, and it is excellent."

Arden

From gumbear at pacbell.net Sun Jun 5 23:19:34 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Sun, 5 Jun 2011 20:19:34 -0700  
Subject: [BoatAnchors] Tektronix high voltage transformer rewinding  
Message-ID: <001701cc23f8\$98b2d4a0\$309f480c@KB6NAX>

But then further down the forum:

"Sorry, no, only the 547 transformer is being rewound. It's also used in the 544, 546, and 545B, ....."

Now that sucks!

Arden

From arc5 at ix.netcom.com Mon Jun 6 17:36:11 2011

From: arc5 at ix.netcom.com (David Stinson)  
Date: Mon, 6 Jun 2011 16:36:11 -0500  
Subject: [BoatAnchors] RAK-RAL Fans:  
Message-ID: <DE200096416B481296D447539594B259@DaddyPC>

RAK-RAL Fans:

Here's one you're looking for:

<http://cgi.ebay.com/230631373884>

From jerry7proc at yahoo.com Mon Jun 6 22:42:16 2011  
From: jerry7proc at yahoo.com (Jerry Proc)  
Date: Mon, 6 Jun 2011 19:42:16 -0700 (PDT)  
Subject: [BoatAnchors] Where'd all the 400 Hz surplus equipment go?  
In-Reply-To: <0jfnu6p1hkb2a0fkvv2d6sh4d3tgqh9fno@4ax.com>  
Message-ID: <784945.15339.qm@web112317.mail.gq1.yahoo.com>

Hi Charles,

400 Hz power systems were originally used in aircraft because it permitted smaller and lighter power transformers, chokes and capacitors to be used in the vacuum tube power supplies of the era. Low voltage DC was used for powering dynamotors and tube filaments.

Today, everything is solid state. Anytime I see the power requirement spec for new aircraft avionics, it is almost always 28VDC.

So that's the short answer.

--

Regards,  
Jerry Proc  
E-mail: jerry7proc at yahoo.com

--- On Sun, 6/5/11, Charles <charlesmorris800 at centurytel.net> wrote:

> From: Charles <charlesmorris800 at centurytel.net>  
> Subject: [BoatAnchors] Where'd all the 400 Hz surplus equipment go?  
> To: boatanchors at theporch.com  
> Received: Sunday, June 5, 2011, 1:37 PM  
> Having finally fixed my 1 KVA 400Hz  
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> posted), I went looking for something to power with it...  
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> discovered that there doesn't seem to be any more  
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> -Charles  
> -----  
> BoatAnchors mailing list  
> BoatAnchors at theporch.com  
> <https://minime.theporch.com/mailman/listinfo/boatanchors>  
>

From ddillman at igc.org Tue Jun 7 11:27:17 2011  
From: ddillman at igc.org (Richard Dillman)  
Date: Tue, 7 Jun 2011 08:27:17 -0700 (GMT-07:00)  
Subject: [BoatAnchors] K6KPH CPQR Saturday 6/11  
Message-ID: <16304594.1307460438001.JavaMail.root@elwamui-muscovy.atl.sa.earthlink.net>

As many may know, K6KPH, the amateur station of the MRHS, is the west coast outlet for many ARRL transmissions including the Code Practice Qualifying Run. K6KPH will transmit the CPQR on Saturday 11 June on these frequencies:

3581.5, 7047.5, 14047.5, 18097.5 and 21067.5kc

The CPQR begins at 2100Z. But in order to give the MRHS Transmitter Department time to shift and re-tune the five transmitters on amateur frequencies K6PHP will be unavailable on its normal frequencies from 2030Z to 2230Z. For full information on the CPQR please see:

<http://www.arrl.org/qualifying-run-schedule>

VY 73,

RD

=====  
Richard Dillman  
Chief Operator, Coast Station KSM  
Maritime Radio Historical Society  
<http://www.radiomarine.org>  
=====

From wb0eq at yahoo.com Tue Jun 7 20:57:07 2011

From: wb0eq at yahoo.com (John Sehring)  
Date: Tue, 7 Jun 2011 17:57:07 -0700 (PDT)  
Subject: [BoatAnchors] Simpson VOM rebuild  
Message-ID: <843364.57931.qm@web45606.mail.sp1.yahoo.com>

I had a Simpson 262 VOM since 1971; it was probably 10-15 years old by then. It's the one with the really big meter face., in the shiny black bakelite case. It served me well for decades.

But then, inexplicably, the meter movement itself failed. The hairspring just broke. :(

I had picked up a Simpson 269 (same mechanicals but has 10 uA instead of 80 uA meter) for peanuts; but it too had problems. The usual overloads in the more sensitive current measuring ranges led to failure of the shunts and melting of metal parts of the rear deck of the meter switch!

The switch still rotated ok but many ranges were unavailable due to missing (melted) wipers & such. The shunts, hand-made from #22 enameled, cotton-covered wire & forms were a charred mess! With the enamel insulation gone, they all read low in R. The inside of the case showed where heating had taken place.

Unbelievably, the meter itself and the rest of the instrument was FB. Simpson sure made 'em strong. This is a 10 uA meter mind you. As far as meters go, that's about as far as they go!

So I did a transplant of the in-good-shape rear deck of the defunct 262 into the 269. This deck was identical to both. I desoldered the components from the 262 switch deck & removed it. Had to do same to 269 deck. Lots & lots of precision/weird-value resistors here to get just the right ranges of V and I and R.

I rewound some of the cooked hand-wire-wound shunts, cutting off a bit at a time to match the cooked ones; I simply unwound the burned wire & noted the very low R values; instead of trying to measure such low R's, I simply matched them to the new ones.

My newly-cal'd Fluke 27 can only read to 0.1 ohms with some uncertainty; surprisingly, I could read more closely than that on my RCA WV-98C; it has enuf resolution on its vly large meter face on its Rx1 range to discern to 0.05 ohms.

In doing this work, I began to understand some of what Simpson did in factory cal'ing. They adjusted both the series resistance and parallel resistance directly around the meter itself to line them up generally in both V and I. No single range would be perfect but the errors would be "averaged" across the ranges. I will repeat this process in future.

I also added some features from later versions of the 269, notably from the MIL version of it. It had Si diodes back to back on the meter for its protection, a

0.1 uF cap across meter for RF bypassing, and a 1 A pigtail fuse in series with the main input. The leaky 0.1 uF DC-blocking cap (for making small voltage AC measurements in the presence of large DC voltages) was replaced. I use a pair of 9 V batteries to get 18 VDC for the high R ranges; don't want to use olde 22 V battery of yore. Low R's use a D-cell.

Final step = Deoxit D5 spray on switch sections.

I must say the 269 is a very cool retro-looking piece of gear! It was worth the effort (2 days!).

--John Sehring VE6/WB0EQ Okotoks, Alberta Canada

From gumbear at pacbell.net Wed Jun 8 01:47:15 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Tue, 7 Jun 2011 22:47:15 -0700  
Subject: [BoatAnchors] Simpson VOM rebuild  
References: <843364.57931.qm@web45606.mail.sp1.yahoo.com>  
Message-ID: <001b01cc259f\$8c03d170\$509e480c@KB6NAX>

> I had a Simpson 262 VOM since 1971; it was probably 10-15 years old by then. It's the one with the really big meter face., in the shiny black bakelite case. It served me well for decades.....

John, you are truly an artiste. Futsing with meters is not my favorite thing but often have had to. But I stay away from the Simpsons because of an experience I had in the Navy at the AMD I was working in for a while. On one of the repair benches there was a drawer where all of the shattered bakelite cased Simpsons were consigned to ignominy. There must have been nearly a dozen corpses crammed in there. It was like happening on an unfinished mass burial sight. What a shock it was. I've never wanted a Simpson since then.

Arden Allen  
KB6NAX

The great pleasure of a dog is that you  
may make a fool of yourself with him  
and not only will he not scold you,  
but he will make a fool of himself too.  
-Samual Butler

From knjhanlon at msn.com Wed Jun 8 14:00:14 2011  
From: knjhanlon at msn.com (JAMES HANLON)  
Date: Wed, 8 Jun 2011 12:00:14 -0600



Subject: [BoatAnchors] Simpson VOM rebuild  
In-Reply-To: <843364.57931.qm@web45606.mail.sp1.yahoo.com>  
<001b01cc259f\$8c03d170\$509e480c@KB6NAX>  
References: <843364.57931.qm@web45606.mail.sp1.yahoo.com>  
<001b01cc259f\$8c03d170\$509e480c@KB6NAX>  
Message-ID: <SNT106-DS120870FD3754C31ACED368A0620@phx.gbl>

John - congrats on doing such a fine job on your old Simpson. You have a lot of patience, that's for sure.

Arden - I have a pair of 260's, one that my brother and I purchased new around 1950, and a second that I picked up at a local hamfest only a year or two ago. They are both in good working order, although the "new" one does not have the higher voltage battery in it for the Rx10,000 scale. I may try John's trick and use a pair of 9 volt batteries. I broke down and bought the "new" one because it reminded me of the 260's that were in the EE lab at Ohio State both when I was a student there beginning in 1956 and when I taught there for four years from 65 through 68. They were so old that the front panel markings were not the molded-in ones filled with white paint that we remember in the Simpsons but rather what appears to be silk-screened yellow paint on a flat, Bakelite panel. Our instrument technicians kept all of the OSU 260's running and well calibrated, even though they were probably older than most of the students who were using them during my stint in the 60's.

73,

Jim Hanlon, W8KGI

----- Original Message -----

From: Arden Allen<mailto:gumbear at pacbell.net>

To: Old Tube Radios (new)<mailto:boatanchors at minime.theporch.com> ; John Sehring<mailto:wb0eq at yahoo.com>

Sent: Tuesday, June 07, 2011 11:47 PM

Subject: Re: [BoatAnchors] Simpson VOM rebuild

> I had a Simpson 262 VOM since 1971; it was probably 10-15 years old by then. It's the one with the really big meter face., in the shiny black bakelite case. It served me well for decades.....

John, you are truly an artiste. Futsing with meters is not my favorite thing but often have had to. But I stay away from the Simpsons because of an experience I had in the Navy at the AMD I was working in for a while. On one of the repair benches there was a drawer where all of the shattered bakelite cased Simpsons were consigned to ignominy. There must have been nearly a dozen corpses crammed in there. It was like happening on an unfinished mass burial sight. What a shock it was. I've never wanted a Simpson since then.

Arden Allen  
KB6NAX

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and not only will he not scold you,  
but he will make a fool of himself too.  
-Samual Butler

From 4cx250b at muohio.edu Wed Jun 8 14:33:07 2011  
From: 4cx250b at muohio.edu (Jim Garland)  
Date: Wed, 8 Jun 2011 12:33:07 -0600  
Subject: [BoatAnchors] Simpson VOM rebuild  
In-Reply-To: <SNT106-DS120870FD3754C31ACED368A0620@phx.gbl>  
References:  
<843364.57931.qm@web45606.mail.sp1.yahoo.com><001b01cc259f\$8c03d170\$509e480c@KB6NAX>  
<SNT106-DS120870FD3754C31ACED368A0620@phx.gbl>  
Message-ID: <63D10827630D468CB52571213C2754E6@JimsOffice>

On this general subject, I've got a recently restored Simpson 260 which had corroded batteries that ruined the phosphor-bronze battery retaining clips. Anybody got a junker with clips I could use? If you do, I'll go look and see which series 260 it is. I'd like to get it working fully because it's otherwise a beauty.

73,  
Jim W8ZR

> -----Original Message-----

> From: boatanchors-bounces at theporch.com  
[mailto:boatanchors-bounces at theporch.com]

> On Behalf Of JAMES HANLON

> Sent: Wednesday, June 08, 2011 12:00 PM

> To: Old Tube Radios (new); John Sehring; Arden Allen

> Subject: Re: [BoatAnchors] Simpson VOM rebuild

>

> John - congrats on doing such a fine job on your old Simpson. You have a lot of patience,

> that's for sure.

>

> Arden - I have a pair of 260's, one that my brother and I purchased new around 1950, and a

> second that I picked up at a local hamfest only a year or two ago. They are both in good

> working order, although the "new" one does not have the higher voltage

battery in it for the  
> Rx10,000 scale. I may try John's trick and use a pair of 9 volt  
batteries. I broke down and  
> bought the "new" one because it reminded me of the 260's that were in the  
EE lab at Ohio  
> State both when I was a student there beginning in 1956 and when I taught  
there for four  
> years from 65 through 68. They were so old that the front panel markings  
were not the  
> molded-in ones filled with white paint that we remember in the Simpsons  
but rather what  
> appears to be silk-screened yellow paint on a flat, Bakelite panel. Our  
instrument  
> technicians kept all of the OSU 260's running and well calibrated, even  
though they were  
> probably older than most of the students who were using them during my  
stint in the 60's.  
>  
> 73,  
>  
> Jim Hanlon, W8KGI  
> ----- Original Message -----  
> From: Arden Allen<mailto:gumbear at pacbell.net>  
> To: Old Tube Radios (new)<mailto:boatanchors at minime.theporch.com> ; John  
> Sehring<mailto:wb0eq at yahoo.com>  
> Sent: Tuesday, June 07, 2011 11:47 PM  
> Subject: Re: [BoatAnchors] Simpson VOM rebuild  
>  
>  
> > I had a Simpson 262 VOM since 1971; it was probably 10-15 years old by  
> then. It's the one with the really big meter face., in the shiny black  
> bakelite case. It served me well for decades.....  
>  
> John, you are truly an artiste. Futsing with meters is not my favorite  
> thing but often have had to. But I stay away from the Simpsons because  
of  
> an experience I had in the Navy at the AMD I was working in for a while.  
On  
> one of the repair benches there was a drawer where all of the shattered  
> bakelite cased Simpsons were consigned to ignominy. There must have  
been  
> nearly a dozen corpses crammed in there. It was like happening on an  
> unfinished mass burial sight. What a shock it was. I've never wanted a  
> Simpson since then.  
>  
> Arden Allen  
> KB6NAX  
>

> The great pleasure of a dog is that you  
> may make a fool of yourself with him  
> and not only will he not scold you,  
> but he will make a fool of himself too.  
> -Samual Butler  
>  
>  
>  
> -----  
> BoatAnchors mailing list  
> BoatAnchors at theporch.com  
> <https://minime.theporch.com/mailman/listinfo/boatanchors>

From ddillman at igc.org Wed Jun 8 14:52:19 2011  
From: ddillman at igc.org (Richard Dillman)  
Date: Wed, 8 Jun 2011 14:52:19 -0400 (EDT)  
Subject: [BoatAnchors] Relocated & Free! Station Visit and Lecture This  
Saturday  
Message-ID: <21475826.1307559139126.JavaMail.root@mswamui-  
thinleaf.atl.sa.earthlink.net>

The field seminar preciously announced for this Saturday 11 June will take place -  
but it has been relocated.

The original seminar was canceled by the Point Reyes National Seashore  
Association. However Bill Ruck, member of the MRHS Transmitter Department, has  
vowed to carry on in spite of this and make his presentation available at the RCA  
receive site in the Point Reyes National Seashore.

Here's an opportunity to visit the seashore in the morning and attend Bill's  
lecture and take the station tour at 12 noon. Additional presentations and tours  
will be made available if you can't make it by noon. The main idea is for you to  
pay a visit whenever you can!

Here are the details (see also our Web site at <http://www.radiomarine.org>)

Lecture and Station Visit: The History of Radio and Wireless in West Marin

Station tour: See KSM in operation

Sit the Circuit: Operate station KSM or K6KPH

Date: 11 June 2011

Time: 12 noon - 4pm

Location: RCA receive site, 17400 Sir Francis Drake Blvd., Point Reyes National

Seashore (directions below)

Cost: Free. But our donation jar will be available for contributions.

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As many readers of these pages know, the work to restore and maintain the ex-KPH transmit and receive stations is supported financially out of the pockets of MRHS members and those kind folks who have made donations to The Cause. But now we are faced with projects like antenna repair and restoration that are beyond the ability of our small bank account to support.

Bill Ruck, member of the MRHS Transmitter Department, will present his lecture and slide show on the history of radio and wireless in West Marin county, California. The event will be held at the ex-RCA receive site in the Point Reyes National Seashore so those attending will be able to see coast station KSM in full operation.

Tours of the transmitter site in Bolinas may be arranged on request for True Believers.

Special Opportunity - Those with commercial radiotelegraph licenses may get them endorsed showing them to be operators at KSM, the last remaining Morse code coast station in the US. Those without a commercial license may operate K6KPH, the MRHS amateur radio station. Bring your own key and earphones or use ours. (K6KPH will be unavailable during the period the ARRL Code Practice Qualifying Run is being transmitted.)

There's no cost to attend but any donations made to The Cause will be deeply appreciated.

This is a unique event that's not to be missed. We look forward to seeing you there!

VY 73,

MRHS

For the location of the receive site see:

<http://tinyurl.com/66rmwc5>

For directions to the receive site from San Francisco see:

<http://tinyurl.com/65evxbb>

For directions to the receive site from Oakland see:

<http://tinyurl.com/65as2xr>

=====  
Richard Dillman  
Chief Operator, Coast Station KSM  
Maritime Radio Historical Society  
<http://www.radiomarine.org>  
=====

From wb0eq at yahoo.com Wed Jun 8 16:17:47 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Wed, 8 Jun 2011 13:17:47 -0700 (PDT)  
Subject: [BoatAnchors] Simpson VOM rebuild  
Message-ID: <155397.12152.qm@web45612.mail.sp1.yahoo.com>

The Triplet uses a fuse & diode protection circuit. Maybe you can ck & see how they did it.

>Now I feel guilty that I haven't yet added the fuse and Si diode  
>protection circuit. (I wonder what good the diodes can really do,  
>it sounds like you are opening yourself to problems in a high rf field,  
>even with the bypass capacitor added.)

>I also own a Triplet 630-NS VOM, which has 200,000 Ohms/V  
>sensitivity. I have to admit I like the Simpson best -  
>I like the little dial to select the range, and the glass meter front  
>(The Triplet uses plastic).

How are you doing that?

<If you have an ESR meter to check electrolytics, it can also double  
<as a low-Ohms meter, with .01 Ohm resolution.

--John Sehring VE6/WB0EQ Okotoks, Alberta Canada

From WA5CAB at cs.com Wed Jun 8 17:18:47 2011  
From: WA5CAB at cs.com (WA5CAB at cs.com)  
Date: Wed, 8 Jun 2011 17:18:47 EDT  
Subject: [BoatAnchors] Simpson VOM rebuild  
Message-ID: <54583.69922769.3b214137@cs.com>

I also prefer to use the Simpson 260. Never could get to like the Triplet.

260 Series 5M and earlier use a fuse for protection. Series 5P and later

have a sensitive solenoid overload protection system. The 5P protection system could probably be retrofitted in the earlier meters, but would require drilling a hole in the front panel for the white reset rod. My favorite model is the 5P or military equivalent. But I have a still working original 260 (no Series number).

In a message dated 6/8/2011 3:18:13 PM Central Daylight Time, wb0eq at yahoo.com writes:

> The Triplet uses a fuse & diode protection circuit. Maybe you can ck &  
> see how they did it.  
>  
> > Now I feel guilty that I haven't yet added the fuse and Si diode  
> > protection circuit. (I wonder what good the diodes can really do,  
> > it sounds like you are opening yourself to problems in a high rf field,  
> > even with the bypass capacitor added.)  
>  
> > I also own a Triplet 630-NS VOM, which has 200,000 Ohms/V  
> > sensitivity. I have to admit I like the Simpson best -  
> > I like the little dial to select the range, and the glass meter front  
> > (The Triplet uses plastic).  
>  
> How are you doing that?  
>  
> < If you have an ESR meter to check electrolytics, it can also double  
> < as a low-Ohms meter, with .01 Ohm resolution.

Robert Downs - Houston  
wa5cab dot com (Web Store)  
MVPA 9480

From k4pf at juno.com Wed Jun 8 17:11:46 2011  
From: k4pf at juno.com (k4pf at juno.com)  
Date: Wed, 8 Jun 2011 21:11:46 GMT  
Subject: [BoatAnchors] Simpson VOM rebuild  
Message-ID: <20110608.171146.21287.0@webmail10.vgs.unttd.com>

John Sehring <wb0eq at yahoo.com> wrote about his (great) rebuild of a Simpson 269 VOM. I mentioned to him that if he has an ESR meter to check electrolytics, it also doubles as a low-Ohm meter, with resolution to .01 Ohm. This would save some grief measuring low resistance current shunts. "ESR" stands for the Equivalent Series Resistance of the electrolytic capacitor, a very fast check of the usability of the capacitor.

Here is the home page of Bob Parker, the designer of the ESR meter

I have:

<http://members.ozemail.com.au/~bobpar/index.html>

73,  
Ed Knobloch

From wb0eq at yahoo.com Wed Jun 8 17:23:11 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Wed, 8 Jun 2011 14:23:11 -0700 (PDT)  
Subject: [BoatAnchors] Simpson VOM rebuild  
Message-ID: <441636.15616.qm@web45608.mail.sp1.yahoo.com>

>I also own a Triplet 630-NS VOM, which has 200,000 Ohms/V  
>sensitivity. I have to admit I like the Simpson best -  
>I like the little dial to select the range, and the glass meter front  
>(The Triplet uses plastic).

I just looked this up. The 630-NS uses a 5 uA meter!!! That gives 200,000 ohms/DC Volt.

However the unit's most sensitive current measuring range is 60 uA. Simpson makes the full 10 uA sensitivity of its meter available. And yes, the 10 uA is more damped than the the 50 uA Simpson so it's slower to reach a reading. That damping would be from a combo of mechanical & electrical effects.

Think of a VTVM with a typical loading of 11 megs, that's 55x higher than this VOM on its 1 V DC range! That's what's "bought" by use of electronic amplification in the VTVM.

But some older circuit measurements want a 20,000 ohms/volt measuring device; if I want to use a VTVM, then I have to load the circuit down with a resistor to get the 20k loading to get the correct reading.

Q: So, what's the record for most sensitive meter movement anybody's seen?

I've got a Phaestron 25-0-25 uA MIL spec meter out of something or other; that's really only equiv. to a 0-50 uA movement.

--John Sehring VE6/WB0EQ Okotoks, Alberta Canada

From wb3fau at att.net Wed Jun 8 18:36:36 2011  
From: wb3fau at att.net (wb3fau at att.net)  
Date: Wed, 8 Jun 2011 15:36:36 -0700 (PDT)



Subject: [BoatAnchors] Simpson

Message-ID: <712802.25593.qm@web180211.mail.gq1.yahoo.com>

fellas, you should be able to get parts for most Simpson meters,  
they are still in business, in Chicago....

From k9fd at flex.com Wed Jun 8 19:02:48 2011

From: k9fd at flex.com (Merv Schweigert)

Date: Wed, 08 Jun 2011 13:02:48 -1000

Subject: [BoatAnchors] Simpson

In-Reply-To: <712802.25593.qm@web180211.mail.gq1.yahoo.com>

References: <712802.25593.qm@web180211.mail.gq1.yahoo.com>

Message-ID: <4DEFFF98.5030207@flex.com>

Has been a couple years, but I had a smoked Simpson 260, I called and  
they  
had the parts to replace some burned resistors etc no problem at all,  
cost was  
decent, service was fast, hope its still the same. Not bad for an  
old product.

Merv K9FD/KH6

> fellas, you should be able to get parts for most Simpson meters,  
> they are still in business, in Chicago....

>

> -----  
> BoatAnchors mailing list

> BoatAnchors at theporch.com

> <https://minime.theporch.com/mailman/listinfo/boatanchors>

>

>

From gumbear at pacbell.net Wed Jun 8 22:18:15 2011

From: gumbear at pacbell.net (Arden Allen)

Date: Wed, 8 Jun 2011 19:18:15 -0700

Subject: [BoatAnchors] Simpson VOM rebuild

References: <441636.15616.qm@web45608.mail.sp1.yahoo.com>

Message-ID: <001001cc264b\$831efab0\$eb9d480c@KB6NAX>

John sez:

> ....But some older circuit measurements want a 20,000 ohms/volt measuring  
device; if I want to use a VTVM, then I have to load the circuit down with a  
resistor to get the 20k loading to get the correct reading. ....

The loading would be 20K if the range being used is 1 volt full scale. If the  
range is 10V then the loading is 200K. And so forth. I'm not familiar enough

with Simpsons and Tripplets to know of variances from this rule, if any.

The advantage of the VTVM is the same loading on all ranges. 11 meg (one meg in the DC probe) for the Heathkit V7A, for example, and 122 meg (22 meg in the DC probe) for the HP 410B. Also, VTVM's can measure voltages in RF circuits with minimal effect due to the isolation resistor in the probe.

Arden Allen  
KB6NAX

If you pick up a starving dog and  
make him prosperous, he will not  
bite you. This is the principle  
difference between a dog and  
a man. -Mark Twain

From w7kpb at hotmail.com Thu Jun 9 00:25:55 2011  
From: w7kpb at hotmail.com (JOHN Freeman)  
Date: Thu, 9 Jun 2011 04:25:55 +0000  
Subject: [BoatAnchors] are you still there  
Message-ID: <BAY160-w380B53C5428C0751F6D118F6650@phx.gbl>

I used to be member of boatanchors list and then stopped getting any messages,  
still operating?

From wb0eq at yahoo.com Thu Jun 9 11:28:36 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Thu, 9 Jun 2011 08:28:36 -0700 (PDT)  
Subject: [BoatAnchors] Simpson VOM rebuild  
In-Reply-To: <001001cc264b\$831efab0\$eb9d480c@KB6NAX>  
Message-ID: <894367.28851.qm@web45608.mail.sp1.yahoo.com>

So right, Arden.

I wrote too fast, it's 20k ohms per volt circuit loading.

--John Sehring VE6/WB0EQ Okotoks, Alberta Canada

--- On Wed, 6/8/11, Arden Allen <gumbear at pacbell.net> wrote:

From: Arden Allen <gumbear at pacbell.net>  
Subject: Re: [BoatAnchors] Simpson VOM rebuild  
To: "John Sehring" <wb0eq at yahoo.com>, boatanchors at theporch.com  
Received: Wednesday, June 8, 2011, 8:18 PM

John sez:

?

> ....But some older circuit measurements want a 20,000 ohms/volt measuring device; if I want to use a VTVM, then I have to load the circuit down with a resistor to get the 20k loading to get the correct reading. ....

?

The loading would be 20K if the range being used is 1 volt full scale.? If the range is 10V then the loading is 200K.? And so forth.? I'm not familiar enough with Simpsons and Tripplets to know of variances from this rule, if any.

Arden Allen

KB6NAX

From wb0eq at yahoo.com Thu Jun 9 11:30:50 2011

From: wb0eq at yahoo.com (John Sehring)

Date: Thu, 9 Jun 2011 08:30:50 -0700 (PDT)

Subject: [BoatAnchors] Simpson VOM rebuild

In-Reply-To: <1E775786-FD75-48AD-AA18-D6E928866199@gmail.com>

Message-ID: <621707.62634.qm@web45612.mail.sp1.yahoo.com>

Tom, color me ASTONISHED! Where is Simpson doing the manufacturing?

--John Sehring VE6/WB0EQ Okotoks, Alberta Canada

--- On Thu, 6/9/11, Tom Norris <nu4g.radio at gmail.com> wrote:

> Nice meter!? Glad you got it up

>

> USAF rules forbade it, deeming modern gear more "worthy"

> Accuracy? vs Precision, I guess??.? But while

> they couldn't be used

> for calibrating test gear, they were much more useful for

> peaks and nulls, also using the required hi-spec digital

> meter alongside.

>

> The Model 260 is still being manufactured!!? Wish

> they'd kept building one of the large-faced models, but the  
> 260 has such a  
> reputation with electricians and other "traditional"  
> trades, that they can't build enough to meet demand even in  
> 2010. (per a  
> news snippet I recall)? How many other specific models  
> of test gear has been sold continuously, nearly unchanged  
> from the  
> original model, for over 50 years?? Very few that I  
> can think of - think Triplet still makes a version of the  
> 603, but I've not checked  
> lately.  
>  
> 73  
>  
>

From wb3fau at att.net Thu Jun 9 21:02:58 2011  
From: wb3fau at att.net (wb3fau at att.net)  
Date: Thu, 9 Jun 2011 18:02:58 -0700 (PDT)  
Subject: [BoatAnchors] Simpson 260 and other analog meters + digital displays  
Message-ID: <555727.41919.qm@web180203.mail.gq1.yahoo.com>

Simpson still in business in Chicago....

From arc5 at ix.netcom.com Thu Jun 9 23:38:51 2011  
From: arc5 at ix.netcom.com (David Stinson)  
Date: Thu, 9 Jun 2011 22:38:51 -0500  
Subject: [BoatAnchors] ARRL National Convention Mil Radio Display  
Message-ID: <2B669691B3D24622918F9BF14A2CF699@DaddyPC>

The ARRL National Convention is being held tomorrow and Saturday at the Plano, Texas "HamCom" hamfest. With the help of Mike Hanz and others, I've been working for months on a WWII Aircraft Radio display of complete, working sets. It's called "The Voice of Eagles." There's only so much room on the one allowed table (the place is jam-packed with vendors), so I've included five sets: SCR-287, SCR-274N, ARB/ATB, SCR-183 and ARC-type-17. Why ARC-type-17? Well, it's a 1946 set and WWII did not \*officially\* end until December of 1946 (betcha didn't know that!) and, if I can get some power to the table tomorrow, it will allow the lookers to use the set to talk to their plastic radios, which should pique their interest.

I just got back from setting-up for tomorrow's opening.

Here are some photos:

<http://home.netcom.com/~arc5/HamCom/display1.JPG>

<http://home.netcom.com/~arc5/HamCom/display2.JPG>

<http://home.netcom.com/~arc5/HamCom/display3.JPG>

There were only a few people in the room setting up, but the display was a big hit with them. Hope it goes over well tomorrow.

While there are guards in the area overnight, I removed the tuning knobs from the 274N receivers, just in case ;-).

Hope some of you will be here.

73 Dave AB5S

From ae4r at cox.net Thu Jun 9 23:35:38 2011

From: ae4r at cox.net (Mike Steussy)

Date: Thu, 09 Jun 2011 23:35:38 -0400

Subject: [BoatAnchors] Lost BA aboard doomed ship

Message-ID: <4DF1910A.7050407@cox.net>

Ahoy! See image 39 of a very interesting series taken of long-out-of-service ships destined to be scrapped.

<http://scotthaefner.com/beyond/mothball-fleet-ghost-ships/>

A majestic Hallicrafters SX-62A waits forlornly for its dismal end. There's probably no way to save it. Too bad.

73, Mike AE4R

From JJan-3 at cox.net Thu Jun 9 23:14:10 2011

From: JJan-3 at cox.net (Jim Hill)

Date: Thu, 09 Jun 2011 20:14:10 -0700

Subject: [BoatAnchors] Simpson VOM rebuild

In-Reply-To: <441636.15616.qm@web45608.mail.sp1.yahoo.com>

References: <441636.15616.qm@web45608.mail.sp1.yahoo.com>

Message-ID: <20110610031414.NGQB18463.fed1rmfepo102.cox.net@fed1rmimpo02.cox.net>

Hi John and the Group.

I checked my 1965 Newark Catalog for the most sensitive routine panel microammeter. Simpson has 15 uA for \$22.95, Triplet has 20 uA for \$20.10, and Weston has 50uA for \$20.30. Microammeters are more

expensive than milliammeters, and a Simpson 1 mA is \$12.75, Triplet is \$11.60. and Weston \$14.40.

I used a microammeter as an S-meter for my high performance crystal set, and have looked at the TRW ARC swap meet and other places for sensitive meters for years.. The most sensitive meter I have found is 30 uA, and I have only found two of them. I finally built a active 10 uA to 100mA meter using an op amp and a circuit from the Radio Electronics magazine. .

Back to the catalog:

The VOM's were listed there, too. The Simpson 260 costs \$48.95, the 260 series 4M with a mirror scale is \$50.95, and a high accuracy 261 is \$59.95.

The 269 series 2, which has a mirror scale and taut band movement and 3% DC and 5% AC (of full scale) accuracies costs \$89.95. I also have a series 3, but don't know the difference. It and my series 2 appear to be identical. Does anyone know the difference?

The Triplet 630 costs \$48.50 and I assume is Triplet's version of the 260. The page says all test equipment is 2%, which I assume applies to the DC accuracy of the 630. There's a 630A with a mirror scale for \$59.50. They also have a 630NA for \$79.50 and a NS for \$99.50 and NS, both with mirror scales and "suspension" meter movements. Accuracy is 1 1/2% of FS DC and 3% AC. The 630NS has 200k ohms/volt input impedance on the 0.3 to 600V ranges with the "range switch set to V A/2, and 100k ohms/volt with the range set to V ohms A. Input impedance of the 630NA is a little misleading. The catalog says 20k ohms/volt, and the meter face 10k to 20k ohms/volt on the DC ranges. However, I measured 10k ohms/volt on all ranges

Hallicrafters had a VOM listed for \$29.95, and the RCA WV-98C costs \$79.50, or \$57.95 in kit form.

If you are looking for a Triplet VOM at a swap meet, take a Radio Shack analog VOM and use the ohms range to verify the meter movement works. The movements are starting to fail or stick at part scale, even if the case shows no damage.

Jim

At 02:23 PM 6/8/2011, you wrote:

> >I also own a Triplet 630-NS VOM, which has 200,000 Ohms/V  
> >sensitivity. I have to admit I like the Simpson best -  
> >I like the little dial to select the range, and the glass meter front  
> >(The Triplet uses plastic).  
>  
>I just looked this up. The 630-NS uses a 5 uA meter!!! That gives  
>200,000 ohms/DC Volt.  
>  
>snip....  
>  
>Q: So, what's the record for most sensitive meter movement anybody's seen?  
>  
>I've got a Phaestron 25-0-25 uA MIL spec meter out of something or  
>other; that's really only equiv. to a 0-50 uA movement.  
>  
>--John Sehring VE6/WB0EQ Okotoks, Alberta Canada  
>-----  
>BoatAnchors mailing list  
>BoatAnchors at theporch.com  
><https://minime.theporch.com/mailman/listinfo/boatanchors>

From dmcintyr at ucalgary.ca Fri Jun 10 00:20:56 2011

From: dmcintyr at ucalgary.ca (Deane McIntyre)

Date: Thu, 9 Jun 2011 22:20:56 -0600

Subject: [BoatAnchors] Simpson VOM rebuild

In-Reply-To: <20110610031414.NGQB18463.fed1rmfepo102.cox.net@fed1rmimpo02.cox.net>

References: <441636.15616.qm@web45608.mail.sp1.yahoo.com>

<20110610031414.NGQB18463.fed1rmfepo102.cox.net@fed1rmimpo02.cox.net>

Message-ID: <E97B2A15-6580-429E-BDBE-2D9973806E2B@ucalgary.ca>

On 2011-06-09, at 9:14 PM, Jim Hill wrote:

> Hi John and the Group.  
> I checked my 1965 Newark Catalog for the most sensitive routine panel  
microammeter. Simpson has 15 uA for \$22.95, Triplet has 20 uA for \$20.10, and  
Weston has 50uA for \$20.30. Microammeters are more expensive than milliammeters,  
and a Simpson 1 mA is \$12.75, Triplet is \$11.60. and Weston \$14.40.  
>  
> I used a microammeter as an S-meter for my high performance crystal set, and  
have looked at the TRW ARC swap meet and other places for sensitive meters for  
years.. The most sensitive meter I have found is 30 uA, and I have only found two  
of them. I finally built a active 10 uA to 100mA meter using an op amp and a

circuit from the Radio Electronics magazine. .

>

> Back to the catalog:

> The VOM's were listed there, too. The Simpson 260 costs \$48.95, the 260 series 4M with a mirror scale is \$50.95, and a high accuracy 261 is \$59.95.

>

> The 269 series 2, which has a mirror scale and taut band movement and 3% DC and 5% AC (of full scale) accuracies costs \$89.95. I also have a series 3, but don't know the difference. It and my series 2 appear to be identical. Does anyone know the difference?

>

As no one has mentioned it yet:

Web site for Simpson:

<<http://www.simpsonelectric.com/>>

For everything you would ever want to know about the Simpson 260 and related meters:

<<http://www.simpson260.com/>>

73,

Deane McIntyre VE6BPO

From hankvc at lostwells.net Fri Jun 10 02:21:34 2011

From: hankvc at lostwells.net (HankVC)

Date: Fri, 10 Jun 2011 00:21:34 -0600 (MDT)

Subject: [BoatAnchors] Simpson 260, and other VOMs

Message-ID: <201106100621.p5A6LYcf001423@joanne.lostwells.net>

I'm the proud owner of a brand spanking new Simpson 260-8 VOM, purchased a couple of months ago. Took about a month to get it. I think the Indians who make the things must have had a big pow-wow when I put in my order.

Simpson has not been in Chicago for 25 years. From the Simpson web site:

#### COMMITMENT TO OUR CLIENTS AND OUR TEAM

In 1985, Simpson Electric was purchased by the Lac du Flambeau Band of Lake Superior Chippewa Indians. The tribal council made the purchase to preserve the existing work force and to create a more diversified economy for north central Wisconsin.



MADE IN THE USA -- QUALITY, INNOVATION AND DEDICATION

<http://www.simpsonelectric.com/>

There is another site dedicated to Simpson multimeters:

<http://www.simpson260.com/>

This has descriptions, manuals, calibration procedures, and schematics.

Jim Garland (and others with battery corrosion problems)---I'd suggest you look at the various battery holders in Mouser's catalog. Several have the types of spring contacts needed for things like multimeters, which you can take off the new assemblies and adapt to the physical needs (if not just use them complete).

I decided to pay the tariff to get a new one. The -8 has a new 25 volt scale which makes the meter suitable for working on 12 volt automotive systems.

The other analog multimeter I have (and use regularly) is a Triplet 630-NA. Those were "general issue" at Tektronix when I worked there in the 1960's. The V-A/2 feature, which halves the full-scale reading, is a huge advantage. One knob instead of two for function/range selection, and it's recessed, so you don't snag it with wires or leads.

Both meters are 20,000 ohms/volt DC. On AC, the Triplet is 10,000 ohms/volt; the Simpson only 5,000. However using the V-A/2 feature on the Triplet cuts the sensitivity in half on both DC and AC volts. Sad to say, Triplet no longer makes any of the 630 line except the plain 630, which is a bunch more expensive than a new 260 for not much more meter. Maybe I should talk to the elders out on the Wind River Indian Reservation (only a mile from me) about competing with the Chippewa in Wisconsin.

For both of these meters, I bought the padded case accessory. Not cheap, but they make it practical to take them out in the field without beating them up and/or breaking the case.

Diode protection for older meters is not hard to come by. A pair of 1N400x diodes back-to-back across the meter terminals generally limits current through the meter to a bit over 200%, which meter movements generally will tolerate. I think both Simpson and Triplet sell the diode protection packs as spares for later meters. These can be hung on older meters that didn't originally have them. I always put a pair of diodes across the terminals of S-meters, VTVM meters, and the like.

Yeah, you can get a DVM that's a lot smaller for a lot less money.

But I learned basic troubleshooting 60+ years ago, and a waving analog meter needle tells me so much more than spinning numbers. Besides, the position the needle swings to on the scale is all the information I need, a lot of the time. No need to look at numbers at all.

Hank

From spr at earthlink.net Fri Jun 10 13:12:59 2011  
From: spr at earthlink.net (spr at earthlink.net)  
Date: Fri, 10 Jun 2011 10:12:59 -0700 (GMT-07:00)  
Subject: [BoatAnchors] Simpson 260, and other VOMs  
Message-ID: <8151487.1307725980765.JavaMail.root@elwamui-muscovy.atl.sa.earthlink.net>

Folks,

My preference has always been for the Triplet 630 and its descendants over the Simpson 260, because the Triplet has more ranges and so you are more likely to get an indication in the top half of the meter for whatever you're measuring. As Hank Ven Cleef mentioned, the original Simpson 260 ranges go from (as I recall) 10 V to 50v, leaving no range suitable for checking car electrical systems. If the new one has a 25V range, that's a big improvement--for my use at least.

I do have a Simpson 262 and like it a lot: big meter, lots of ranges. I don't much like the 30V ohmmeter battery; you can get those, or at least the 15V ones, but as I recall,  $3 \times 9V = 27V$  wasn't quite enough.

For many things, a moderate precision analog reading that shows variation over time (or maxima, for alignment) is more useful than a more precise digital reading.

Regards,

Scott Robinson

From wb0eq at yahoo.com Fri Jun 10 14:05:13 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Fri, 10 Jun 2011 11:05:13 -0700 (PDT)  
Subject: [BoatAnchors] Simpson VOM rebuild - ESR meter useful  
Message-ID: <29007.90408.qm@web45612.mail.sp1.yahoo.com>

Biggest problem I've found with VOM's is barbed very loooow resistance current shunts.

For example, the shunts on the higher current settings (e.g. 1.6 A) on my Simpson

269 are typically on the order of tenths of an ohm, so I need 0.01 ohm readability--pretty hard to read even on my trusty Fluke 77. Actually my RCA WV-98C with its large meter and 1X resistance range is better for that--matching (not absolute measurement) these resistances.

Coincidentally, I've just purchased the "EVB" ESR meter from the overseas source (Vitor in Portugal--it got here very quickly!).? I want it to measure capacitor ESR which is esp. important in SS circuits.

(Yes, I confess in front of all, I have some SS stuff, but it's almost all decades old, pre-IC test equipment. Solid state boat anchors? Say what? Contradiction in terms, or?)

The EVB web site:

<http://clientes.netvisao.pt/greenpal/evb1.htm>

Lots of good links on the subject there.

Review of the EVB (and other ESR's at):

<http://www.capacitorlab.com/esr-meter/>

I see the EVB ESR meter is also a low-ohms (under 100 ohm) ohmmeter capable of reading resistance to 0.01 ohms with decent accuracy.? Unit compensates for effects of test lead resistance, too.? Ideal for those sub-one-ohm shunts.? A nice bonus. (I will ck it using a known length of uncooked nichrome wire.)

Be advised that the kit version this little beauty of an instrument is NOT offered Heathkit style!? It takes some rooting around in the kit & downloads from the web (Vitor sends stuff to you & tells you where else to ck).? Lots of vy small parts & such to ID. Nice PC board with designators. High optical magnifiers for these ol' tired eyes mandatory.

'Course this bunch here wouldn't be put off by any of that!

Vitor offers a built & cal'd version as well for not too much more Euros.

--John Sehring? VE6/WB0EQ? Okotoks, Alberta? Canada

From wb0eq at yahoo.com Fri Jun 10 14:22:43 2011

From: wb0eq at yahoo.com (John Sehring)

Date: Fri, 10 Jun 2011 11:22:43 -0700 (PDT)

Subject: [BoatAnchors] Simpson VOM rebuild - meter movement damping

Message-ID: <111770.98337.qm@web45602.mail.sp1.yahoo.com>

Someone on the list mentioned that the 50 uA meter in the Simpson 262 settled faster than the 10 uA meter in the 269. Is indeed true.

I looked at this a little bit... It appears that both meter movements have about the same amount of \_mechanical\_ damping. Ck that by rocking the electrically disconnected meter & noting settling time. Important that it be completely disconnected as any resistance in parallel with the meter will increase its damping = longer settling time.

Now the 10 uA Simpson meter, for same range coverage (esp. for measuring current) needs considerably lower resistance (parallel) shunts. This gives more \_electrical\_ damping to the movement hence longer settling time.

\_Total\_ meter damping is combo of mechanical and electrical damping.

A little theory (pretty painless):

Underdamped movement needle will overshoot final reading; may take a number of overshoot/undershoot cycles to settle down;

Overdamped movement needle will take excessive time to settle; however, very useful for averaging noisy readings.

Critically damped needle will reach final reading as quickly as possible, with NO overshoot.

This all applies to electronic as well as mechanical oscillatory systems. As my heavily-Hungarian-accented Physics professor said, it's just "Fijicks".

I have a beautiful MIL spec 25 uA meter pulled from something expen\$ive. Without any shunt, it oscillated way too much. An adjustable parallel shunt (dual pot) let me have any degree of damping I wanted depending on how noisy the signal was. Wiring the 2nd section of the pot in series with the meter gave me roughly unchanging sensitivity with the change in damping. Nice.

--John Sehring VE6/WB0EQ Okotoks, Alberta Canada

From WA5CAB at cs.com Fri Jun 10 14:25:57 2011

From: WA5CAB at cs.com (WA5CAB at cs.com)

Date: Fri, 10 Jun 2011 14:25:57 EDT

Subject: [BoatAnchors] Simpson VOM rebuild - ESR meter useful

Message-ID: <124dd.1f309249.3b23bbb5@cs.com>

They aren't easy to find today but at one time, Simpson made a group of add-on adaptors for the 260, one of which is the 651 Milliohm meter. I have

one, and it works pretty well.

In a message dated 6/10/2011 1:05:39 PM Central Daylight Time,  
wb0eq at yahoo.com writes:

> Biggest problem I've found with VOM's is barbecued very loooow resistance  
> current shunts.  
>  
> For example, the shunts on the higher current settings (e.g. 1.6 A) on my  
> Simpson 269 are typically on the order of tenths of an ohm, so I need 0.01  
> ohm readability--pretty hard to read even on my trusty Fluke 77. Actually  
> my RCA WV-98C with its large meter and 1X resistance range is better for  
> that--matching (not absolute measurement) these resistances.  
>

Robert Downs - Houston  
wa5cab dot com (Web Store)  
MVPA 9480

From gumbear at pacbell.net Fri Jun 10 17:19:52 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Fri, 10 Jun 2011 14:19:52 -0700  
Subject: [BoatAnchors] Simpson VOM rebuild - meter movement damping  
References: <111770.98337.qm@web45602.mail.sp1.yahoo.com>  
Message-ID: <004801cc27b4\$4eb7d9d0\$819e480c@KB6NAX>

> .....Critically damped needle will reach final reading as quickly as possible,  
with NO overshoot. ....

Mr. chairman, a point of order, if you please?

The definition of "critically damped" that I learned is when there is an overshoot of one half cycle followed by an undershoot of the other half of the cycle followed by the settled value. Of course the definition is derived from mathematics because the variabilities of the real world make things a bit more complicated. But for observational purposes in feedback systems it's a good thing to know because things have inertia.

For the best square corner response, i.e., fastest rise time followed by flattest settled value the system must have a Gaussian response, i.e., a single pole lowpass cutoff frequency followed by a 3dB per octave slope for several octaves - that defines the passband for an oscilloscope for best waveform fidelity. Achieving something close to a Gaussian response in a meter movement is a complicated business involving making the magnetic, pneumatic, mechanical, and electrical attributes work together in harmony.

Arden Allen  
KB6NAX

Adopt a shelter dog,  
save an innocent life,  
and make a friend forever =:-)

From gumbear at pacbell.net Fri Jun 10 16:53:27 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Fri, 10 Jun 2011 13:53:27 -0700  
Subject: [BoatAnchors] Simpson 260, and other VOMs  
References: <201106100621.p5A6LYcf001423@joanne.lostwells.net>  
Message-ID: <004701cc27b4\$4cf67ac0\$819e480c@KB6NAX>

> .....But I learned basic troubleshooting 60+ years ago, and a waving  
analog meter needle tells me so much more than spinning numbers.  
Besides, the position the needle swings to on the scale is all the  
information I need, a lot of the time. No need to look at numbers at  
all.

My first voltmeter with flashing digits experience consisted of a spinning drum  
dial VOM, I can't remember the make - digits to read at some distance when they  
weren't wobbling up and down too much. 60 Hz hum blurred the digits. Then the  
cubic DVM with its incandescent bulb lit digits in layers of plastic, like the way  
digits are stacked up in Nixie tubes, switched by relays. If you had a noisy  
voltage to measure you heard constant clattering of the relays - and then the  
bulbs would start burning out.

I think I'll patent my idea of replacing meter needles with laser beam pointers,  
no more pretzeled meters. ....oops!

Arden Allen  
KB6NAX

Stupidity is far more dangerous than evil,  
for evil takes a break from time to time,  
stupidity does not. - Anatole France

From gumbear at pacbell.net Fri Jun 10 17:24:58 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Fri, 10 Jun 2011 14:24:58 -0700  
Subject: [BoatAnchors] Simpson VOM rebuild - ESR meter useful -  
CORRECTION  
References: <29007.90408.qm@web45612.mail.sp1.yahoo.com>  
Message-ID: <005501cc27b4\$ddaed1c0\$819e480c@KB6NAX>

I said "3dB per octave" and meant to say 6dB per octave for the rolloff slope of a  
Gaussian response system. Proof reading ain't a perfect science, that's for sure.

Arden Allen  
KB6NAX

From wb0eq at yahoo.com Sat Jun 11 19:05:59 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Sat, 11 Jun 2011 16:05:59 -0700 (PDT)  
Subject: [BoatAnchors] Huntron Tracker mystery  
Message-ID: <436751.8756.qm@web45602.mail.sp1.yahoo.com>

My bud stumped me this morning on our way to the regular local radio & repeater club Sat. breakfast.

He handed me a box that said "Huntron Tracker" on front. Had a vry small scope, a few buttons & switches, and two unshielded input jacks, but couldn't be an o'scope, I thought. I couldn't figure it out.

I had never heard of the concept that this device uses. (This one was an HTR1005B model.)

Anybody have experience with these? I see a few on eBay.

I found a lovely explantion & DIY at:

<http://sound.westhost.com/project119.htm>

I think that this is a must-build gadget, no? Make a nice companion to my new EVB ESR meter.

I even have a couple of vry small o'scopes in the shack to use it with. Even the most rudimentary, ancient scope would work with it, DC to 60 Hz(!) is all ya need!

>From the schematic on the above site, it seems that almost all of the cost of the Tracker is in the scope & its support circuitry.

--John Sehring VE6/WB0EQ Okotoks, Alberta Canada

From gumbear at pacbell.net Sat Jun 11 22:13:12 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Sat, 11 Jun 2011 19:13:12 -0700  
Subject: [BoatAnchors] Huntron Tracker mystery  
References: <436751.8756.qm@web45602.mail.sp1.yahoo.com>  
Message-ID: <003401cc28aa\$b6cf6be0\$71c0480c@KB6NAX>

> ....He handed me a box that said "Huntron Tracker" on front. ....

The Huntron Tracker is a device that I would fit into the category of signature analysis troubleshooting for identifying defective parts without working circuit knowledge in equipment. Instead of making observations to determine if a device is still capable of performing to specs the tracker simply displays a shape on its CRT that is either identical to that of a good device or the signature of an obviously defective device. It's an efficient method because one can collect the signatures of devices in circuit without having to do circuit reverse engineering. The best example of its use is in a warranty repair shop or maintenance organization that sees lots of the same model of equipment needing repair. The Huntrons are not as efficient for troubleshooting dissimilar equipments in the random equipment repair operation. A technician with circuit and device familiarity is better equipped to use a Huntron effectively.

Arden Allen  
KB6NAX

The great pleasure of a dog is that you  
may make a fool of yourself with him  
and not only will he not scold you,  
but he will make a fool of himself too.  
-Samual Butler

From gumbear at pacbell.net Sat Jun 11 22:44:42 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Sat, 11 Jun 2011 19:44:42 -0700  
Subject: [BoatAnchors] Simpson VOM rebuild - meter movement damping  
References: <111770.98337.qm@web45602.mail.sp1.yahoo.com>  
<004801cc27b4\$4eb7d9d0\$819e480c@KB6NAX>  
<000001cc283c\$d80d2270\$88276750\$@net>  
Message-ID: <003501cc28aa\$b89b5240\$71c0480c@KB6NAX>

> I currently have a earlier Simpson 260 that works fine but the meter does not appear to have any damping in voltmeter mode. Meter seems to have damping when switched to the ammeter mode. Is there a defective circuit component somewhere? Works perfectly otherwise.

Think of a d'Arsonval meter movement as a little DC motor. If you start it spinning and then disconnect the power the motor keeps spinning until its momentum is exhausted. The kinetic energy stored in the motor is gradually dissipated by bearing friction. But if you disconnect the power and then immediately connect a load so that the motor is then acting as a generator the motor slows to a stop quicker as its kinetic energy is also consumed by the electrical load.

Basic circuits:

A voltmeter is a sensitive ammeter with a high value resistor in series to



set the full scale current for the full scale voltage the "multiplier" resistor is chosen for. The ammeter has no load on it when the voltage measuring circuit is opened.

An ammeter utilizes a low value "shunt" resistor in parallel with the meter, thus the ammeter is driving a load when the current measuring circuit is opened.

Arden Allen  
KB6NAX

Adopt a shelter dog,  
save an innocent life,  
and make a friend forever =:-)

From WA1KBQ at aol.com Sun Jun 12 08:14:41 2011  
From: WA1KBQ at aol.com (WA1KBQ at aol.com)  
Date: Sun, 12 Jun 2011 08:14:41 -0400 (EDT)  
Subject: [BoatAnchors] HP 410B VTVM vs. Deoxit (ported over from  
HP\_Agilent meeting)  
Message-ID: <2d259.506f9e6e.3b2607b1@aol.com>

Switches are a mechanical device with several different kinds moving parts and different types of mechanical rubbing surfaces; they need lubrication or they will wear and become harder to operate.

WD-40 is another popular lubricant which when mentioned will often result in another lively pro-con discussion. Do you know the insulation resistance of this one?

Regards, Greg

In a message dated 6/2/2011 12:57:32 P.M. Eastern Daylight Time, wb0eq at yahoo.com writes:

I've been talking about restoration of my HP 401B VTVM on the HP & Agilent Yahoo group list. I mentioned using Caig Deoxit spray on the 410. I received objections to that! This is my response on that list:

=====

I've read some objections on this [HP & Agilent] list to using Deoxit D5 & ProGold on the high impedance circuitry of an HP 401B VTVM. Contact cleaner spray was alleged to compromise the insulation systems of the this unit; it has a rated input Z of 122 megohms.

I've measured the insulation resistance of Caig Deoxit ProGold spray product as follows.

A 0.5" x 0.5" square area on an extremely high resistance surface of thin plexiglas was sprayed with the Deoxit; the terminals on the plastic to the megger were sprayed as well to include them in the "circuit".

I used the insulation resistance function of a Sprague T0-6A. Its maximum range is about 100,000 megOhms.

I can't readily measure the voltage applied to the specimen for this test 'cause I'm dealing with 100,000 megs here! Looking at the circuitry for ins. resistance measurement shows the applied voltage might be around 250 VDC. I'll have to figure out another way of measuring this voltage. The Z is so high, it's kind of in the realm of "static" electricity!

I verified the calibration of the T0-6A using a string of extremely high value "stick" resistors (the kind found in the front end attenuators of high Z VTVMs), each 50 to 100 megohms.

Both wet and dry (evaporated) spray readings were identical; they were at the measurement limits of the device. Ditto for the unsprayed plastic.

I've been using Caig Deoxit products since about 1988. They've worked "magic" on a lot of equipment that I considered hopeless junk due to previously-unfixable contact (e.g. switches of all sorts, connectors, relay contacts) problems.

That's why I had no hesitation about using it on the 410B VTVM.

I'm going to give Caig a call to find out their take on insulation resistance of their product, too.

=====

--John Sehring VE6/WB0EQ Okotoks, Alberta Canada

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BoatAnchors mailing list

BoatAnchors at theporch.com

<https://minime.theporch.com/mailman/listinfo/boatanchors>

From spr at earthlink.net Sun Jun 12 16:21:28 2011

From: spr at earthlink.net (Scott Robinson)

Date: Sun, 12 Jun 2011 13:21:28 -0700

Subject: [BoatAnchors] HP 410B VTVM vs. Deoxit (ported over from HP\_Agilent meeting)

In-Reply-To: <2d259.506f9e6e.3b2607b1@aol.com>

References: <2d259.506f9e6e.3b2607b1@aol.com>

Message-ID: <4DF51FC8.5010500@earthlink.net>

Greg,

WD-40 is actually just Stoddard Solvent (de-odorized Kerosene) plus a propellant. It is NOT repeat NOT a lubricant. It will evaporate in a few months, leaving whatever surface it was on dry.

It's useful for cleaning greasy stuff off surfaces and for thinning hardened grease. If you use it to clean something and want a lubricant, add the oil of your choice after you wipe off as much of the WD-40 and crud residue as you can.

Since it's just Kerosene, I'd expect it to be a very good insulator.

Regards,

Scott

On 6/12/11 5:14 AM, WA1KBQ at aol.com wrote:

> Switches are a mechanical device with several different kinds moving parts  
> and different types of mechanical rubbing surfaces; they need lubrication  
> or they will wear and become harder to operate.

>

> WD-40 is another popular lubricant which when mentioned will often result  
> in another lively pro-con discussion. Do you know the insulation resistance  
> of this one?

>

> Regards, Greg

>

>

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> wb0eq at yahoo.com writes:

>

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> received objections to that! This is my response on that list:

> =====

>

> I've read some objections on this [HP& Agilent] list to using Deoxit D5&  
> ProGold on the high impedance circuitry of an HP 401B VTVM. Contact  
> cleaner spray was alleged to compromise the insulation systems of the this  
> unit; it has a rated input Z of 122 megohms.

>

> I've measured the insulation resistance of Caig Deoxit ProGold spray  
> product as follows.

>

> A 0.5" x 0.5" square area on an extremely high resistance surface of thin  
> plexiglas was sprayed with the Deoxit; the terminals on the plastic to the  
> megger were sprayed as well to include them in the "circuit".  
>  
> I used the insulation resistance function of a Sprague T0-6A. Its maximum  
> range is about 100,000 megOhms.  
>  
> I can't readily measure the voltage applied to the specimen for this test  
> 'cause I'm dealing with 100,000 megs here! Looking at the circuitry for  
> ins. resistance measurement shows the applied voltage might be around 250  
> VDC. I'll have to figure out another way of measuring this voltage. The Z  
> is so high, it's kind of in the realm of "static" electricity!  
>  
> I verified the calibration of the T0-6A using a string of extremely high  
> value "stick" resistors (the kind found in the front end attenuators of high  
> Z VTVMs), each 50 to 100 megohms.  
>  
> Both wet and dry (evaporated) spray readings were identical; they were at  
> the measurement limits of the device. Ditto for the unsprayed plastic.  
>  
> I've been using Caig Deoxit products since about 1988. They've worked  
> "magic" on a lot of equipment that I considered hopeless junk due to  
> previously-unfixable contact (e.g. switches of all sorts, connectors, relay  
> contacts) problems.  
>  
> That's why I had no hesitation about using it on the 410B VTVM.  
>  
> I'm going to give Caig a call to find out their take on insulation  
> resistance of their product, too.  
> =====  
>  
> --John Sehring VE6/WB0EQ Okotoks, Alberta Canada  
> -----  
> BoatAnchors mailing list  
> BoatAnchors at theporch.com  
> <https://minime.theporch.com/mailman/listinfo/boatanchors>  
>  
> -----  
> BoatAnchors mailing list  
> BoatAnchors at theporch.com  
> <https://minime.theporch.com/mailman/listinfo/boatanchors>  
>

From gumbear at pacbell.net Sun Jun 12 22:31:04 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Sun, 12 Jun 2011 19:31:04 -0700  
Subject: [BoatAnchors] HP 410B VTVM vs. Deoxit (ported over

from HP\_Agilent meeting)

References: <2d259.506f9e6e.3b2607b1@aol.com> <4DF51FC8.5010500@earthlink.net>

Message-ID: <001b01cc2971\$f5551960\$70c3480c@KB6NAX>

Scott provides:

> WD-40 is actually just Stoddard Solvent (de-odorized Kersone) plus a propellant. It is NOT repeat NOT a lubricant. It will evaporate in a few months, leaving whatever surface it was on dry.

> It's useful for cleaning greasy stuff off surfaces and for thinning hardened grease. If yo use it to clean something and want a lubricant, add the oil of your choice after you wipe off as much of the WD-40 and crud residue as you can.

> Since it's just Kerosene, I'd expect it to be a very good insulator.

That harkens back to the day I joined Boatanchors. I was excoriated for suggesting WD-40 for whatever so to show my disdain I chose my next e-mail address name from the assertion that WD-40 gummed things up.

WD-40 was never intended to be a long term lubricant, it was initially developed as a preservative to protect metals from corrosion as a water repellent, intended to be used on machinery and electrical equipment. It does a good job of extending the life of deteriorated auto ignition components by increasing insulation resistance. Of course not a few folks applied it to sparking equipment and started fires so it's also used as an engine starting fluid. Because WD-40 leaves a waxy-gummy film after the carrier evaporates it's not good for lubricating delicate assemblies. It works in a cinch to free things up but, as Scott says, it's not a primary lubricant. If you want oil for a fine mechanism sewing machine oil is much better in the same price range.

For what it does WD-40 is more a marketing marvel than a solution to problems, you can buy it everywhere.

Arden Allen  
KB6NAX

Properly trained a man can be  
dog's best friend. -Corey Ford

From wwatson5 at sbcglobal.net Mon Jun 13 18:16:00 2011  
From: wwatson5 at sbcglobal.net (William Watson)  
Date: Mon, 13 Jun 2011 15:16:00 -0700 (PDT)

Subject: [BoatAnchors] Need SX-42 Main Dial  
Message-ID: <829116.73912.qm@web81405.mail.mud.yahoo.com>

I am restoring a Hallicrafters SX-42 and I would like to replace the main dial if I can find one.? The one I have is badly warped.  
?  
Joe  
W5WBR

From spr at earthlink.net Mon Jun 13 20:17:49 2011  
From: spr at earthlink.net (spr at earthlink.net)  
Date: Mon, 13 Jun 2011 17:17:49 -0700 (GMT-07:00)  
Subject: [BoatAnchors] Need SX-42 Main Dial  
Message-ID: <6605848.1308010671375.JavaMail.root@mswamui-blood.atl.sa.earthlink.net>

HI Joe,

If you take it out, heat it gently and EVENLY to about as hot as you can touch, and arrange to clamp it between two pieces of wood while it cools, you may succeed in flattening it.

If not, try

<[www.radiodaze.com](http://www.radiodaze.com)>

but they don't list the SX-42 dial, although they have other Hallicrafters dials.

Good luck!

/scott

-----Original Message-----

>From: William Watson <[wwatson5 at sbcglobal.net](mailto:wwatson5@sbcglobal.net)>  
>Sent: Jun 13, 2011 3:16 PM  
>To: "boatanchors at theporch.com" <[boatanchors at theporch.com](mailto:boatanchors@theporch.com)>  
>Subject: [BoatAnchors] Need SX-42 Main Dial  
>  
>I am restoring a Hallicrafters SX-42 and I would like to replace the main dial if I can find one.? The one I have is badly warped.  
>?  
>Joe  
>W5WBR  
>  
>-----  
>BoatAnchors mailing list  
>[BoatAnchors at theporch.com](mailto:BoatAnchors@theporch.com)  
><http://minime.theporch.com/mailman/listinfo/boatanchors>

From aa5qt at aol.com Thu Jun 16 22:10:22 2011  
From: aa5qt at aol.com (Aa5qt)  
Date: Thu, 16 Jun 2011 22:10:22 -0400 (EDT)  
Subject: [BoatAnchors] 0  
Message-ID: <8CDFAAAD8EF89A2-164-1E0CA@webmail-m062.sysops.aol.com>

Innovation in loosening weight!..  
<http://deutscheunschuld.de/friends.links.php?bGIS=58i1>

From ae4r at cox.net Sat Jun 18 10:48:52 2011  
From: ae4r at cox.net (Mike Steussy)  
Date: Sat, 18 Jun 2011 10:48:52 -0400  
Subject: [BoatAnchors] Need HX-20 knobs  
Message-ID: <4DFCBAD4.70907@cox.net>

Ahoy! The very active radio club here in Vienna VA has an annual homebrew challenge, with demo & prizes at a July meeting. The winners are triumphs of modern solid state and software-defined engineering. But it's fun to submit something from the past and club members seem to enjoy seeing radios from ancient times.

My entry this year is a Heathkit HX-20 mobile SSB/CW transmitter, powered by an HP-20 power supply. A friend predicted it'll be the only HX-20 on the air in the US Atlantic region. With the talent and industry of members of this list, I can hardly believe that.

The case needed major surgery and repainting, now done. The rig is working and sounding good in both modes. With the generous help of Hap Perry W3UPV, who partly repainted the (let's just say "ugly") front panel and repaired the dead meter, it's looking good, too. I plan to pair this pup on the air with an SB-300 or MR-1 Comanche. Will send image on request.

The HX-20 uses the shiny chrome knobs Heathkit put on a few of its pale green radios of the pre-SB family of the early 60s. To fully regain stock appearance, I need two of the medium sized, skirted chrome knobs, 1 1/4 in. (3 cm) diameter. Even just one will help me a lot as it would replace a small knob where a medium sized is truly needed. Please advise if you have and would be willing to sell or swap.

73 & Happy Father's Day, Mike AE4R

From WA1KBQ at aol.com Sat Jun 18 11:31:21 2011  
From: WA1KBQ at aol.com (WA1KBQ at aol.com)  
Date: Sat, 18 Jun 2011 11:31:21 -0400 (EDT)  
Subject: [BoatAnchors] HP 410B VTVM vs. Deoxit (ported over from  
HP\_Agilent mee...  
Message-ID: <11196.4a9d7955.3b2e1ec9@aol.com>

Thanks for the reply. I have used WD-40 for many years as a surface treatment to inhibit or retard corrosion and oxidation on things I have cleaned which I don't want to oxidize again and found it to be fairly effective. In my experience WD-40 leaves behind a very thin protective film after the stoddard solvent carrier evaporates which I understand is beeswax along with other propriety ingredients. There are possibly other more effective corrosion inhibitors available such as Cinguard (similar type product but industrial grade) but WD-40 has always worked well for me. I've tried Caig products as well and have most of them but in all of my experience with all of them found WD-40 works just as well. Personally I have just not witnessed better results from Caig, however, an engineer could change my mind on this so I remain open about it. I have had good success using WD-40 to fix Allen Bradley pots in several Collins receivers which had the common moving contact noise issues and they are still fine after 10 years. I don't just douse them and hope for the best, I remove the stamped steel back covers and wash the whiskers off which is common to find accumulating on the resistance element and blow them dry with compressed air and reassemble. In my experience whisker type debris deposits are mostly responsible for the noisy operation which seems to be fairly common to the high quality Allen Bradley's for whatever reason I would rather repair and retain a high quality original Allen Bradley part whenever possible than install some other cheaper replacement brand.

Another area WD-40 has worked well for me is preserving the luster or shine that has been re-established after polishing and cleaning to rejuvenate and restore the appearance of a cadmium plated part. Cadmium plating is very difficult to make look good again once the surface has oxidized and the thickness of the original plating does not allow many attempts. It is common to actually make it look worse the more you rub it, and will quickly oxidize again anyway if you do not apply a surface protection. One of my first restoration attempts was an otherwise nice National NC-183D about twenty years ago which had a moderately pitted cadmium plated chassis. I completely disassembled the receiver and polished the chassis minimally as necessary but overall back to a fairly bright silvery appearance to remove the surface discoloration and I sprayed on a thin film of WD-40. Blew off the excess with compressed air leaving behind a very thin film which further evaporated away in time and after all these years it still looks as good as the day I did the job. It is actually one of my keepers and has a position in the line-up. I have done other cadmium polish jobs where I did no surface protection afterwards and promptly lost the surface appearance in two weeks. As



they  
say of course... your mileage may vary.

73, Greg

In a message dated 6/12/2011 4:21:30 P.M. Eastern Daylight Time,  
spr at earthlink.net writes:

Greg,

WD-40 is actually just Stoddard Solvent (de-odorized Kerosene) plus a  
propellant. It is NOT repeat NOT a lubricant. It will evaporate in a few  
months, leaving whatever surface it was on dry.

It's useful for cleaning greasy stuff off surfaces and for thinning  
hardened grease. If you use it to clean something and want a lubricant,  
add the oil of your choice after you wipe off as much of the WD-40 and  
crud residue as you can.

Since it's just Kerosene, I'd expect it to be a very good insulator.

Regards,

Scott

On 6/12/11 5:14 AM, WA1KBQ at aol.com wrote:

> Switches are a mechanical device with several different kinds moving  
parts

> and different types of mechanical rubbing surfaces; they need  
lubrication

> or they will wear and become harder to operate.

>

> WD-40 is another popular lubricant which when mentioned will often result

> in another lively pro-con discussion. Do you know the insulation  
resistance

> of this one?

>

> Regards, Greg

>

>

> In a message dated 6/2/2011 12:57:32 P.M. Eastern Daylight Time,

> wb0eq at yahoo.com writes:

>

> I've been talking about restoration of my HP 401B VTVM on the HP&  
Agilent

> Yahoo group list. I mentioned using Caig Deoxit spray on the 410. I

> received objections to that! This is my response on that list:

> =====  
>  
> I've read some objections on this [HP& Agilent] list to using Deoxit  
D5&  
> ProGold on the high impedance circuitry of an HP 401B VTVM. Contact  
> cleaner spray was alleged to compromise the insulation systems of the  
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> unit; it has a rated input Z of 122 megohms.  
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> A 0.5" x 0.5" square area on an extremely high resistance surface of  
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>  
> I used the insulation resistance function of a Sprague T0-6A. Its  
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> range is about 100,000 megOhms.  
>  
> I can't readily measure the voltage applied to the specimen for this  
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> 'cause I'm dealing with 100,000 megs here! Looking at the circuitry  
for  
> ins. resistance measurement shows the applied voltage might be around  
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> VDC. I'll have to figure out another way of measuring this voltage.  
The Z  
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> I verified the calibration of the T0-6A using a string of extremely high  
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> Both wet and dry (evaporated) spray readings were identical; they were  
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> the measurement limits of the device. Ditto for the unsprayed plastic.  
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> "magic" on a lot of equipment that I considered hopeless junk due to  
> previously-unfixable contact (e.g. switches of all sorts, connectors,  
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> contacts) problems.  
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> That's why I had no hesitation about using it on the 410B VTVM.

>  
> I'm going to give Caig a call to find out their take on insulation  
> resistance of their product, too.  
> =====  
>  
> --John Sehring VE6/WB0EQ Okotoks, Alberta Canada  
> -----  
> BoatAnchors mailing list  
> BoatAnchors at theporch.com  
> <https://minime.theporch.com/mailman/listinfo/boatanchors>  
>  
> -----  
> BoatAnchors mailing list  
> BoatAnchors at theporch.com  
> <https://minime.theporch.com/mailman/listinfo/boatanchors>  
>

From gumbear at pacbell.net Sat Jun 18 15:55:56 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Sat, 18 Jun 2011 12:55:56 -0700  
Subject: [BoatAnchors] HP 410B VTVM vs. Deoxit (ported over  
fromHP\_Agilent mee...  
References: <11196.4a9d7955.3b2e1ec9@aol.com>  
Message-ID: <001c01cc2df2\$071edb20\$48c1480c@KB6NAX>

> .....I have had good success using WD-40 to fix Allen  
Bradley pots in several Collins receivers which had the common moving  
contact noise issues and they are still fine after 10 years. I don't just  
douse  
them and hope for the best, I remove the stamped steel back covers and wash  
the whiskers off which is common to find accumulating on the resistance  
element.....

The Allen Bradley "hot molded" pots use a carbon brush instead of metal.  
Perhaps the carbon whiskers are "rolled" when the pot is first broken in.  
I've had the same experience with noisy AB's and I agree, just drilling a  
hole in the cover and squirting in cleaner-lube doesn't eliminate the noise  
for long. Nowadays hot molded pots are being made by Precision Components  
(do I have the name right?) in Canada. I once purchased a pair to replace  
screwdriver accessibility with knob accessibility on a Radiometer SMG1 stereo  
multiplex generator. The pot's resistance change with knob rotation is  
irregular making adjustments tedious. I phoned Precision to see if they  
made audio grade pots. The answer was no. I think this explains why.

Arden Allen  
KB6NAX

735 6th St.  
Vallejo, CA 94590  
(707) 553-2361  
gumbear at pacbell.net

A lie can travel halfway around the world while  
the truth is putting on its shoes. -Mark Twain

From wb0eq at yahoo.com Sat Jun 18 19:55:52 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Sat, 18 Jun 2011 16:55:52 -0700 (PDT)  
Subject: [BoatAnchors] ESR meter  
Message-ID: <826751.50420.qm@web45602.mail.sp1.yahoo.com>

I bit the bullet & assembled my ESR EVB V 1.1 meter from Portugal. Thanks again  
for all the help I got here on meter selection.

I look forward to being able to ferret out those not-quite-up-to-snuff  
electrolytic capacitors (mostly in solid state equipment) which a cap checker/  
analyzer (e.g. Sprague TO-6A) doesn't flag as bad--it doesn't do ESR.

Vy nice PC board! Very fiddly though with lots of vy small parts, e.g. 1/10 W  
resistors; some are 1% tolerance and use a five band color code I'm not familiar  
with. So I measured every single resistor before installing it to make sure of no  
mis-reading. The board density is pretty high for a kit but that's the price you  
pay for compactness.

Whole thing took me (I triple-cked most all--less time spent for that than trouble  
shooting later) about 5 hrs working leisurely (what's the rush?!). This is NOT a  
Heathkit!

Worked first time power up! Color me happy.

Some changes: Put gold--plated banana jacks into it; not for getting lowest  
resistance to input but for lead connection resistance stability. The unit does  
cal itself to zero when leads are crossed.

Am using a six-pack of 1.5 V AA alkalines instead of a small 9 V battery. Will  
give much longer life. Unit uses abt 450 mW max, dividing by typical 9 V batt.  
capacity of about 200 mA-Hr gives about 150 minutes of op.

Added a jack for external 9 VDC supply; it disconnects the battery automagically  
when plugged in. (BTW, ck your wall warts with a voltmeter, both without & with  
load. You may find them way on the high side, damaging even.)

I will have to fiddle with the 3 resistors (1%) that give the unit its

calibration, R6, R8, R10. Yeah, I know, this unit is for ESR testing, but it's so easy to cal it more accurately esp. for vy low R measurements, < 1 ohm. My Flukes got

BTW, the 1% calibration resistors supplied are a bit off according to my trusty Fluke 27 and Fluke 70. The 82 ohm is 81.5, -0.6% and the 56 ohm'er is -4.5%. I need to wind a < 1 ohm resistor out of some nichrome wire to get a cal R for the lowest range.

--John Sehring VE6/WB0EQ Okotoks, Alberta Canada

From wb0eq at yahoo.com Sun Jun 19 15:23:53 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Sun, 19 Jun 2011 12:23:53 -0700 (PDT)  
Subject: [BoatAnchors] VNA tutorial  
Message-ID: <718908.35091.qm@web45614.mail.sp1.yahoo.com>

Nice basic tutorial on Vector Network Analyzers. This is a subject that's quite new to me. The cost of these is coming down, down, down.

=====

Made a network analysis tutorial in English, it is also usable for other VNA's:

<http://www.pa4tim.nl/?p=1594>

Fred

=====

--John Sehring VE6/WB0EQ Okotoks, Alberta, Canada

From gumbear at pacbell.net Sun Jun 19 20:16:34 2011  
From: gumbear at pacbell.net (Arden Allen)  
Date: Sun, 19 Jun 2011 17:16:34 -0700  
Subject: [BoatAnchors] ESR meter  
References: <826751.50420.qm@web45602.mail.sp1.yahoo.com>  
Message-ID: <001101cc2edf\$5c9d0200\$1a9f480c@KB6NAX>

> .....I will have to fiddle with the 3 resistors (1%) that give the unit its calibration, R6, R8, R10. Yeah, I know, this unit is for ESR testing, but it's so easy to cal it more accurately esp. for vy low R measurements, < 1 ohm. ....

Bear in mind, John, (only to spoil your fun) trying to retain accuracy well below 1 ohm is troubling due to test lead resistance, probe contacting resistance, component terminal and lead resistance, all cumulative typically

around 10 milliohms which is 1% of 1 ohm.

Arden Allen  
KB6NAX

Adopt a shelter dog,  
save an innocent life,  
and make a friend forever =:-)

From wb0eq at yahoo.com Mon Jun 20 13:29:58 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Mon, 20 Jun 2011 10:29:58 -0700 (PDT)  
Subject: [BoatAnchors] ESR meter  
Message-ID: <395183.50516.qm@web45601.mail.sp1.yahoo.com>

Fortunately, this ESR meter has a zeroing function to care of some/most of that.

It's been interesting for me to actually measure some of those very low R's in things like test leads & connectors.

Google this for a nice handbook download on the subject:

keithley low level measurement handbook

--John Sehring VE6/WB0EQ Okotoks, Alberta, Canada  
=====

> .....I will have to fiddle with the 3 resistors (1%) that give the unit its calibration, R6, R8, R10. Yeah, I know, this unit is for ESR testing, but it's so easy to cal it more accurately esp. for vly low R measurements, < 1 ohm. ....

Bear in mind, John, (only to spoil your fun) trying to retain accuracy well below 1 ohm is troubling due to test lead resistance, probe contacting resistance, component terminal and lead resistance, all cumulative typically around 10 milliohms which is 1% of 1 ohm.

Arden Allen

From w9ac at arrl.net Mon Jun 20 15:42:43 2011  
From: w9ac at arrl.net (Paul Christensen)  
Date: Mon, 20 Jun 2011 15:42:43 -0400  
Subject: [BoatAnchors] Question fort Crystal Experts

References: <5ff00.59faf4dc.3b27ae83@aol.com><BANLkTikE-0iKWe4sAUquyr5S-N5hAgteGQ@mail.gmail.com><4DF6646F.7080204@tampabay.rr.com><68244EA406294EB8AF1823DE01B362E9@jim4abc689c3fe>

<BANLkTinVh0p+=FSWSNLkK-8Shd6APZCfJw@mail.gmail.com>

Message-ID: <035e01cc2f82\$3b804de0\$1d3ca8c0@office>

I've completed restoration of a very early (ca. 1965) Yaesu FR-100B receiver. Wow, I do not even know where to begin with all the design and age-related issues, but it's all working 100% now. Ever try to disassemble and restore a mechanical I.F. filter? I'm seeking technical advice from the crystal experts among the group.

The 455 kHz USB BFO needs to shift by a couple hundred hertz to match the LSB characteristics. I've already performed alignment and I've ensured the IF placement onto the 2.1 kHz mechanical filter. The only difference in passband audio remaining is due to the BFO. I can swap crystals and the issue follows the crystal and not the circuit. By the way, as seen in the schematic, USB and LSB crystals are selected by turning on 1/2 of a 12AT7 through the respective cathode.

I have tried to duplicate the VX0 scheme used in the 100 kHz crystal calibrator (and duplicated a zillion times by other manufacturers) but I cannot get the 455 kHz BFO crystal to "bend" very much. I believe the crystal cut of the calibrator is likely designed for bending whereas the BFO crystals are not.

I have attached a link to the schematic in case any of you wish to take an educated guess as to what is required to get the crystal to bend. In the end, I may find that I cannot get it to move very much owing to the cut.

<http://72.52.250.47/images/FR-100B-BFO.pdf>

So far, I have tried to replace C81 shown in the lower yellow circle with a 7-120 pF ceramic trimmer. I've also tried (1) paralleling the existing C81 with the trimmer; and (2) inserting 39 uH inductance at the crystal and from the trimmer to circuit ground. Nothing I've tried allows for much frequency bending.

Many Tnx!

Paul, W9AC

From ddillman at igc.org Tue Jun 21 13:37:40 2011  
From: ddillman at igc.org (Richard Dillman)

Date: Tue, 21 Jun 2011 10:37:40 -0700 (GMT-07:00)  
Subject: [BoatAnchors] K6KPH to Transmit 2011 Field Day Message  
Message-ID: <2077716.1308677860586.JavaMail.root@mswamui-thinleaf.atl.sa.earthlink.net>

K6KPH to Transmit 2011 Field Day Message

-----

K6KPH, the amateur station of the Maritime Radio Historical Society, will once again be the west coast outlet for the annual ARRL Field Day message in both Morse and digital modes.

Here are the details:

SATURDAY 25 JUNE -

CW

7:30 AM Pacific 8:30 AM Mountain 9:30 AM Central 10:30 AM Eastern

5:30 PM Pacific 6:30 PM Mountain 7:30 PM Central 8:30 PM Eastern

Digital

6:30 PM Pacific 7:30 PM Mountain 8:30 PM Central 9:30 PM Eastern

SUNDAY 26 JUNE -

CW

7:30 AM Pacific 8:30 AM Mountain 9:30 AM Central 10:30 AM Eastern

Digital

9:30 AM Pacific 10:30 AM Mountain 11:30 AM Central 12:30 PM Eastern

FREQUENCIES

CW

3.5815, 7.0475, 14.0475, 18.0975 and 21.0675 Mc

Digital

(RTTY, FEC AMTOR, PSK31 and MFSK16)



7.095 and 14.095 Mc

The full ARRL Field Day information packet may be found here:

[http://www.arrl.org/files/file/Field-Day/2011/2011\\_FD\\_Packet.pdf](http://www.arrl.org/files/file/Field-Day/2011/2011_FD_Packet.pdf)

=====  
Richard Dillman  
Chief Operator, Coast Station KSM  
Maritime Radio Historical Society  
<http://www.radiomarine.org>  
=====

From signetics at netzero.com Wed Jun 22 16:27:48 2011  
From: signetics at netzero.com (phil)  
Date: Wed, 22 Jun 2011 15:27:48 -0500  
Subject: [BoatAnchors] handbook  
Message-ID: <5F01290783C74D78A5A1209EA93BE233@philip>

Surplus to my needs the following book:  
The radio amateur's handbook by ARRL This is the 1936 edition  
In good shape \$25 postage paid  
Phil

-----  
Groupon.com Official Site  
1 huge daily deal on the best stuff to do in your city. Try it today!  
<http://thirdpartyoffers.netzero.net/TGL3241/4e0250526ee152e879st05vuc>

From CBRENNER at uwec.edu Wed Jun 22 18:06:37 2011  
From: CBRENNER at uwec.edu (Brenner, Charles J.)  
Date: Wed, 22 Jun 2011 22:06:37 +0000  
Subject: [BoatAnchors] FS: Fisher 450-T Service Manual  
Message-ID: <3B2C101E19CBC240B031AA79D40D2BED0CAB6266@EX2010-MBX1.uwec.edu>

I hate to dumpster something that might be of use to someone on this list. If you want the above manual, contact me off list and it is yours for \$2 postage. Manual has schematics, PCB layouts, alignment instructions etc.

Chuck, WB9GJW

From w5adf at sbcglobal.net Thu Jun 23 17:53:00 2011  
From: w5adf at sbcglobal.net (Allan Fritsche)  
Date: Thu, 23 Jun 2011 16:53:00 -0500

Subject: [BoatAnchors] Old RC meters

Message-ID: <CE12540568D64ABCA3D5640F2C010C78@upstairs>

Hi Gang, long time no post.

Over the years I have gone through a couple of capacitor testers. The heathkit ct1 and a knightkit. Even replacing the elctrolytics before using didn't help for long as both AC transformers shorted out eventually. Must be the heat and humidity in Houston.

Well to make a long story short, what is the consensus of getting a Sprague TO-6 or A model. Ive read some about the esr meters but I think they would be of little value in boatanchors. Any comments welcome and if you have a To-6 forsale , let me know.

Your old friend Al

W5ADF

From gumbear at pacbell.net Thu Jun 23 23:15:43 2011

From: gumbear at pacbell.net (Arden Allen)

Date: Thu, 23 Jun 2011 20:15:43 -0700

Subject: [BoatAnchors] Old RC meters

References: <CE12540568D64ABCA3D5640F2C010C78@upstairs>

Message-ID: <000901cc321d\$06b446a0\$489f480c@KB6NAX>

> .....Even replacing the elctrolytics  
before using didn't help for long as both AC transformers shorted out  
eventually. Must be the heat and humidity in Houston. ....

When in doubt, use WD-40. If you are in a high humidity environment before powering something that has been sitting for a long time, dry it for 48 hours or so under a heat lamp. Then while still warm infuse the power transformer with WD-40 or similar product touted as having good electrical insulation and moisture repelling ability, allow time to soak in. I've done that to a variety of gear over the years with 100% positive results. Maybe transformers that wouldn't have failed anyway but obviously no ill effect.

Arden Allen

KB6NAX

If you get to thinking you're a person of  
some influence, try ordering somebody  
else's dog around. -Will Rogers

From spr at earthlink.net Fri Jun 24 13:32:44 2011  
From: spr at earthlink.net (spr at earthlink.net)  
Date: Fri, 24 Jun 2011 10:32:44 -0700 (GMT-07:00)  
Subject: [BoatAnchors] Old RC meters  
Message-ID: <22410797.1308936766061.JavaMail.root@mswamui-andean.atl.sa.earthlink.net>

Folks,

I'll second this recommendation: WD-40 stands for Water Displacement 40, so it's well suited for this situation.

/scott

-----Original Message-----

>From: Arden Allen <gumbear at pacbell.net>  
>Sent: Jun 23, 2011 8:15 PM  
>To: Allan Fritsche <w5adf at sbcglobal.net>, Old Tube Radios <boatanchors at theporch.com>  
>Subject: Re: [BoatAnchors] Old RC meters  
>  
>> .....Even replacing the elctrolytics  
>before using didn't help for long as both AC transformers shorted out  
>eventually. Must be the heat and humidity in Houston. ....  
>  
>When in doubt, use WD-40. If you are in a high humidity environment before  
>powering something that has been sitting for a long time, dry it for 48  
>hours or so under a heat lamp. Then while still warm infuse the power  
>transformer with WD-40 or similar product touted as having good electrical  
>insulation and moisture repelling ability, allow time to soak in. I've done  
>that to a variety of gear over the years with 100% positive results. Maybe  
>transformers that wouldn't have failed anyway but obviously no ill effect.  
>  
>Arden Allen  
>KB6NAX  
>  
>If you get to thinking you're a person of  
>some influence, try ordering somebody  
>else's dog around. -Will Rogers  
>  
>-----  
>BoatAnchors mailing list  
>BoatAnchors at theporch.com  
><https://minime.theporch.com/mailman/listinfo/boatanchors>

From w5adf at sbcglobal.net Fri Jun 24 16:03:01 2011  
From: w5adf at sbcglobal.net (Allan Fritsche)  
Date: Fri, 24 Jun 2011 15:03:01 -0500  
Subject: [BoatAnchors] Old RC meters  
References: <CE12540568D64ABCA3D5640F2C010C78@upstairs>  
<000901cc321d\$06b446a0\$489f480c@KB6NAX>  
Message-ID: <1D24A940A69D490DB919294B52BA78A7@upstairs>

----- Original Message -----

From: "Arden Allen" <gumbear at pacbell.net>  
To: "Allan Fritsche" <w5adf at sbcglobal.net>; "Old Tube Radios"  
<boatanchors at theporch.com>  
Sent: Thursday, June 23, 2011 10:15 PM  
Subject: Re: [BoatAnchors] Old RC meters

>> .....Even replacing the elctrolytics  
> before using didn't help for long as both AC transformers shorted out  
> eventually. Must be the heat and humidity in Houston. ....  
>  
> When in doubt, use WD-40. If you are in a high humidity environment  
> before  
> powering something that has been sitting for a long time, dry it for 48  
> hours or so under a heat lamp. Then while still warm infuse the power  
> transformer with WD-40 or similar product touted as having good electrical  
> insulation and moisture repelling ability, allow time to soak in. I've  
> done  
> that to a variety of gear over the years with 100% positive results.  
> Maybe  
> transformers that wouldn't have failed anyway but obviously no ill effect.  
>  
> Arden Allen  
> KB6NAX  
>  
> If you get to thinking you're a person of  
> some influence, try ordering somebody  
> else's dog around. -Will Rogers  
>

Well Arden, thats a new one for me. Ive heard of heating them up and dipping  
in diluted shellac but not WD-40. You live and learn.

Al  
W5ADF

From whitebear1122 at comcast.net Fri Jun 24 16:07:50 2011

From: whitebear1122 at comcast.net (whitebear1122 at comcast.net)  
Date: Fri, 24 Jun 2011 20:07:50 +0000 (UTC)  
Subject: [BoatAnchors] WTB: NOS Tube Sockets for HBR Project  
In-Reply-To:  
<1346038506.1919826.1308946067602.JavaMail.root@sz0139a.emeryville.ca.mail.comcast.net>  
Message-ID:  
<989138783.1919832.1308946070367.JavaMail.root@sz0139a.emeryville.ca.mail.comcast.net>

I am just testing the waters... I am collecting parts to build a homebrew 11 tube superhet receiver, copying Ted Crosby W6TC HBR-11 design.?

I am vacillating over the tube sockets because I'd like to build my American made homebrew radio with as many?US made?components as reasonably?possible, including tube sockets.? It would be easy to order all the Chinese made sockets from Antique Electric Supply or Radiodaze but I'm thinking that I'd like to put in American sockets.

I need five 7 pin w/shield sockets, four 9 pin w/shield sockets, one 9 pin ceramic w/shield socket, and three round?5 pin?tube sockets for the coils.? Let me know if you have a bunch of these that I can buy.

If it turns out that I can't find them, then I'll put in the AES foreign sockets and be fine with it.? I just had a preference for US sockets.?

No I'm not planning on using NOS ancient resistors that have drifted to kingdom come or old silver mica's that already have silver migration problems? :)

Thanks. 73, Scott WA9WFA

From wb0eq at yahoo.com Fri Jun 24 16:20:59 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Fri, 24 Jun 2011 13:20:59 -0700 (PDT)

Subject: [BoatAnchors] Old RC meters

Message-ID: <1308946859.13289.YahooMailClassic@web45609.mail.sp1.yahoo.com>

I've had the Sprague T0-5, -6 & -6A.

The 6 series has a bit more flexibility in measuring leakage current (of lytics) & insulation resistance (of other types). I prefer it.

The only thing I'd do for a -5 and a -6 is to add pair of reverse connected parallel Si diodes across the meter for protection.

An the voltage & current readings on the meter will no doubt be off due to age, not so hard to fix.

--John Sehring VE6/WB0EQ Okotoks, Alberta, Canada

From gumbear at pacbell.net Fri Jun 24 17:09:05 2011

From: gumbear at pacbell.net (Arden Allen)

Date: Fri, 24 Jun 2011 14:09:05 -0700

Subject: [BoatAnchors] Old RC meters

References: <1308946859.13289.YahooMailClassic@web45609.mail.sp1.yahoo.com>

Message-ID: <001f01cc32b3\$04943ba0\$9fc2480c@KB6NAX>

> .....The only thing I'd do for a -5 and a -6 is to add pair of reverse connected parallel Si diodes across the meter for protection. ....

As the manual instructs, alway deactivate the tester between tests before changing components so capacitors are discharged and the meter doesn't get banged around when connecting things. Turn things down before initiating a new test to go easy on the meter. Even with diodes across the meter they don't like getting beat up even a little.

Arden

From esieb at sympatico.ca Sun Jun 26 13:13:42 2011

From: esieb at sympatico.ca (Ed Sieb)

Date: Sun, 26 Jun 2011 13:13:42 -0400

Subject: [BoatAnchors] Spambots

In-Reply-To: <000c01cc3419\$ea1ba9d0\$be52fd70\$@swcp.com>

Message-ID: <BLU0-SMTP548838EA1E379B70628CE5C9540@phx.gbl>

AA5QT's webmail account vwas hacked by some SPAMBOT's who have harvested all his webmail

addresses. I see this all the time, and typically delete the offending email.

There is

very little one can do about this. Even my own SYMPATICO (Hotmail) account was SPAMNOTTED. Luckily, I knew about this SPAMBOT and deleted all my addresses. I was the only one to receive the malicious email, which I promptly deleted.

I routinely reject any incoming email from someone I don't know, and without a subject line.

Ed, VA3ES

-----  
Mike Langner wrote:  
Hello everyone !

According to my Malware Bytes program, the site marked below is a malicious one.

Malware Bytes refused to allow my computer to access it.

Mike/  
-----

Mike Langner  
929 Alameda Road NW  
Albuquerque, NM 87114-1901

(505) 898-3212 home/home office  
(505) 238-8810 cell  
mlangner at swcp.com

-----Original Message-----

From: owner-baswaplist at foothill.net [mailto:owner-baswaplist at foothill.net]

On Behalf Of Aa5qt

Sent: Saturday, June 25, 2011 9:21 PM

To: barry.youney at verizon.net; baswaplist at foothill.net;

billhayward at oplink.net; boatanchors at theporch.com;

linda.s.brown at exxonmobil.com

Subject:

<http://www.no-hands.de/modules/Search/bbc.html>

From jerry7proc at yahoo.com Sun Jun 26 15:18:34 2011

From: jerry7proc at yahoo.com (Jerry Proc)  
Date: Sun, 26 Jun 2011 12:18:34 -0700 (PDT)  
Subject: [BoatAnchors] Boatanchors, Radar and Weather Ships  
Message-ID: <1309115914.42815.YahooMailClassic@web112310.mail.gq1.yahoo.com>

Hello Everyone,

In 1946, the major political powers convened in London in order to form a international network of Ocean Weather stations in support of the newly emerging airline industry flying transoceanic routes. Of the 17 stations established, the United States would provide services for 11 with Canada having 2 stations up to 1950 and only one thereafter.

This is the story of the Canadian stations 'Baker' and 'Papa'.  
There are ample radar and radio room photos which are all linked to a table at the bottom of the document. This comes as a result of some major updating done over the last several months.  
<http://jproc.ca/rrp/wxship.html>

--

Regards,  
Jerry Proc  
E-mail: jerry7proc at yahoo.com

From wb0eq at yahoo.com Tue Jun 28 11:38:50 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Tue, 28 Jun 2011 08:38:50 -0700 (PDT)  
Subject: [BoatAnchors] Grounding techniques  
Message-ID: <1309275530.14915.YahooMailNeo@web45606.mail.sp1.yahoo.com>

In the season of lightning, among the best docs I've seen on effective grounding techniques.

1.? Below is from Motorola:

<http://www.dslreports.com/forum/r24680665-Tech-Ops-Motorola-R56-Document>

2.? Below is from a ham, nice summary, note esp. Figs 5 and 7:

<http://kc.flexradio.com/KnowledgebaseArticle50426.aspx>

3.? Also, at 512 pages, a heavyweight document:

<http://www.tscm.com/MIL-HDBK-419A.PDF>

-----



What I try to remember:? AC/DC power grounds are not necessarily effective as RF grounds!

--John Sehring? VE6/WB0EQ? Okotoks, Alberta, Canada

From artleb at earthlink.net Wed Jun 29 00:07:08 2011  
From: artleb at earthlink.net (Art Lebermann)  
Date: Tue, 28 Jun 2011 21:07:08 -0700  
Subject: [BoatAnchors] Need manual for Applied Comm. SR-2153 rcvr.  
Message-ID: <380-220116329478563@earthlink.net>

I'm looking for a manual (or copy) for the Applied Communications SR-2153 VHF/UHF receiver. Any other info on this receiver - or other similar models - would also be welcome.

Thanks!  
Art Lebermann, W6REQ  
artleb at earthlink.net

From ddillman at igc.org Wed Jun 29 16:02:10 2011  
From: ddillman at igc.org (Richard Dillman)  
Date: Wed, 29 Jun 2011 13:02:10 -0700 (GMT-07:00)  
Subject: [BoatAnchors] Night of Nights 2011 - Official Announcement  
Message-ID: <21606190.1309377730350.JavaMail.root@mswamui-billy.atl.sa.earthlink.net>

Night of Nights 2011 - Official Announcement

[Details are subject to change. Check our Web site at <http://www.radiomarine.org> for updates.]

Each year the MRHS commemorates 12 July 1999, the date on which the supposed last commercial message was sent in the US. On that date we pick up the thread, keep the faith and maintain the traditions of maritime radio communications so that the skills and traditions of all the radiotelegraphers who came before us will be maintained.

While MRHS station KSM is on the air every Saturday, on Night of Nights we

originate stations KPH and KFS in addition to KSM. We hope that other stations will join us on the air this year including KLB and WLO.

You can participate by listening or by visiting the ex-RCA receive site (details below) to see the action in person. If you'd like to operate K6KPH just bring your key. No license required! If you have a commercial radiotelegraph license bring it along. You can sit the circuit at KSM and have your license endorsed for coast station service.

Here are the details of the event:

Date: 12 July 2010 Pacific time, 13 July gmt

Doors open: 3:00pm Pacific time

On air time: 5:01pm Pacific time, 0001 gmt

Station and frequency information (subject to change):

-----

KPH

KPH will transmit on 426, 500, 4247.0, 6477.5, 8642.0, 12808.5, 17016.8 and 22477.5kc.

MF and 22Mc will be on Henry transmitters, rest of KPH HF on 1950s vintage RCA K and L sets.

KPH operators will listen for calls from ships on ITU Channel 3 in all bands. The Channel 3 frequencies are 4184.0, 6276.0, 8368.0, 12552.0, 16736.0 and 22280.5kc on HF and 500kc on MF.

Reception reports may be sent to:

Ms. DA Stoops  
P.O. Box 381  
Bolinas CA 94924-0381  
USA

-----

KFS

KFS will transmit on 12695.5 and 17026.0 -

12695.5 will be on a 1940s vintage Press Wireless PW-15, formerly at the KFS transmitter site in Palo Alto, CA and one of the transmitters on the air on 12

July 1999. 17026.0 will be on a Henry transmitter.

KFS will listen for calls from ships on HF Channel 3 (see KPH listing for frequencies).

Reception reports may be sent to:

Ms. DA Stoops  
P.O. Box 381  
Bolinaz CA 94924-0381  
USA

-----

KSM

KSM will transmit on 426, 500, 6474, 8438.3 and 12993kc.

We don't have enough antennas to accommodate the other KSM frequencies when KPH and KFS are on the air. A failure of any of the RCA transmitters may cause a KSM transmitter to be diverted to cover KPH.

KSM will listen for calls from ships on 500kc and HF Channel 3 (see KPH listing for frequencies).

Reception reports may be sent to:

Ms. DA Stoops  
P.O. Box 381  
Bolinaz CA 94924-0381  
USA

-----

To be confirmed

WLO

WLO will transmit on 2055.5, 4343.0, 8658.0, 12992.0 and 16968.5kc

WLO will listen for calls from HF Channel 3 (see KPH listing for frequencies).

Reception reports may be sent to:

WLO Radio  
7700 RINLA AVENUE  
MOBILE, ALABAMA 36619  
USA

-----

To be confirmed

KLB

KLB will transmit on 488, 500 (A1 & A2), 8582.5kc

KLB will listen for calls from ships on 500kc and 8368.0kc.

Reception reports may be sent to:

WLO Radio  
7700 RINLA AVENUE  
MOBILE, ALABAMA 36619  
USA

-----

K6KPH

K6KPH, the MRHS amateur station, will transmit and listen on 3550, 7050 14050 and 21050kc for KPH, KFS and KSM reception reports.

Professional operators will be at the key and commercial procedures will be used. But please don't hesitate to call, no matter what your code speed or experience level may be.

K6KPH verification reports may be sent to:

Ms. DA Stoops  
P.O. Box 381  
Bolinias CA 94924-0381  
USA

-----

Remember, this is a public event. If you are in the area you are invited to join us at the RCA receive site, 17000 Sir Francis Drake Blvd in the Point Reyes National Seashore north of San Francisco. If using a computer mapping program add "Inverness" after the address above even though the station is well beyond that town.

Doors open at 3:00pm Pacific time. Snacks will be served. Tours of the transmitting station may be arranged for "true believers" by appointment only.

VY 73 de MRHS

=====  
Richard Dillman  
Chief Operator, Coast Station KSM  
Maritime Radio Historical Society  
<http://www.radiomarine.org>  
=====

From ddillman at igc.org Wed Jun 29 16:30:52 2011  
From: ddillman at igc.org (Richard Dillman)  
Date: Wed, 29 Jun 2011 13:30:52 -0700 (GMT-07:00)  
Subject: [BoatAnchors] Morse Ops Needed for Night of Nights  
Message-ID: <12655671.1309379452621.JavaMail.root@mswamui-billy.atl.sa.earthlink.net>

Morse operators are needed for Night of Nights 2011.

Here's your chance to "sit the circuit" at K6KPH (or KPH/KFS/KSM if you have a commercial ticket).

It's hard for me to be a proper host for all the visitors that usually attend this event and monitor all the channels for calls. If you're a Morse operator your help would be appreciated - for whatever time you may have available.

You'll receive a briefing in station operations and procedures and then turned loose on whatever band you prefer. Bring your own key and earphones or use ours.

If you can lend a hand please let me know as soon as possible.

VY 73,

RD

=====  
Richard Dillman  
Chief Operator, Coast Station KSM  
Maritime Radio Historical Society  
<http://www.radiomarine.org>  
=====

From wb0eq at yahoo.com Wed Jun 29 20:57:09 2011  
From: wb0eq at yahoo.com (John Sehring)  
Date: Wed, 29 Jun 2011 17:57:09 -0700 (PDT)  
Subject: [BoatAnchors] Calibrate ESR meter

Message-ID: <1309395429.92196.YahooMailNeo@web45614.mail.sp1.yahoo.com>

Some kind person on this list offered to mail me a few very low value/high precision resistors so I could calibrate my EVB ESR meter kit.

Sadly, I lost his email to me.? Please resend, thank you!

?

--John Sehring VE6/WB0EQ Okotoks, Alberta, Canada

From gumbear at pacbell.net Thu Jun 30 18:36:39 2011

From: gumbear at pacbell.net (Arden Allen)

Date: Thu, 30 Jun 2011 15:36:39 -0700

Subject: [BoatAnchors] Calibrate ESR meter

References: <1309395429.92196.YahooMailNeo@web45614.mail.sp1.yahoo.com>

Message-ID: <002001cc3776\$32545d00\$d2c0480c@KB6NAX>

> .....Some kind person on this list offered to mail me a few very low value/high precision resistors so I could calibrate my EVB ESR meter kit.

Making a low value resistor is probably one of the easiest things you can do in electronics. Using your DVM, which has sufficient accuracy, set up a power supply to pass 1 ampere through a piece of wire. Measure the voltage drop on the wire by sliding your DVM probes along the wire until you find the length that registers 1 volt drop for 1 ohm of resistance.

Arden Allen

KB6NAX

The average dog is a nicer person than  
the average person. -Andy Rooney

From wb0eq at yahoo.com Thu Jun 30 18:54:31 2011

From: wb0eq at yahoo.com (John Sehring)

Date: Thu, 30 Jun 2011 15:54:31 -0700 (PDT)

Subject: [BoatAnchors] Calibrate ESR meter

In-Reply-To: <002001cc3776\$32545d00\$d2c0480c@KB6NAX>

References: <1309395429.92196.YahooMailNeo@web45614.mail.sp1.yahoo.com>

<002001cc3776\$32545d00\$d2c0480c@KB6NAX>

Message-ID: <1309474471.49535.YahooMailNeo@web45606.mail.sp1.yahoo.com>

Ah, stroke of basic genius, your idea, Arden.? Harks back to the very beginnings of electrical stuff.

Easy to do using nichrome wire methinks.

?

--John Sehring VE6/WB0EQ Okotoks, Alberta, Canada

----- Forwarded Message -----

From: Arden Allen <gumbear at pacbell.net>

To: John Sehring <wb0eq at yahoo.com>; Boatanchors List <boatanchors at theporch.com>

Sent: Thursday, June 30, 2011 4:36:39 PM

Subject: Re: [BoatAnchors] Calibrate ESR meter

> .....Some kind person on this list offered to mail me a few very low value/high precision resistors so I could calibrate my EVB ESR meter kit.

Making a low value resistor is probably one of the easiest things you can do in electronics.? Using your DVM, which has sufficient accuracy, set up a power supply to pass 1 ampere through a piece of wire.? Measure the voltage drop on the wire by sliding your DVM probes along the wire until you find the length that registers 1 volt drop for 1 ohm of resistance.

Arden Allen  
KB6NAX

The average dog is a nicer person than  
the average person.? -Andy Rooney

From gumbear at pacbell.net Thu Jun 30 19:46:44 2011

From: gumbear at pacbell.net (Arden Allen)

Date: Thu, 30 Jun 2011 16:46:44 -0700

Subject: [BoatAnchors] Calibrate ESR meter

References:

<1309395429.92196.YahooMailNeo@web45614.mail.sp1.yahoo.com><002001cc3776\$32545d00\$d2c0480c@KB6NAX>

<1309474471.49535.YahooMailNeo@web45606.mail.sp1.yahoo.com>

Message-ID: <005d01cc377f\$ff0ae4a0\$d2c0480c@KB6NAX>

> ....Easy to do using nichrome wire methinks. ...

Yeah, but. If you are lucky you can get some resistance wire out of some resistors. Copper will work just fine for room temperature measurements. I don't think your ESR meter is going to heat the wire much.

Arden Allen  
KB6NAX

If you pick up a starving dog and

make him prosperous, he will not bite you. This is the principle difference between a dog and a man. -Mark Twain